

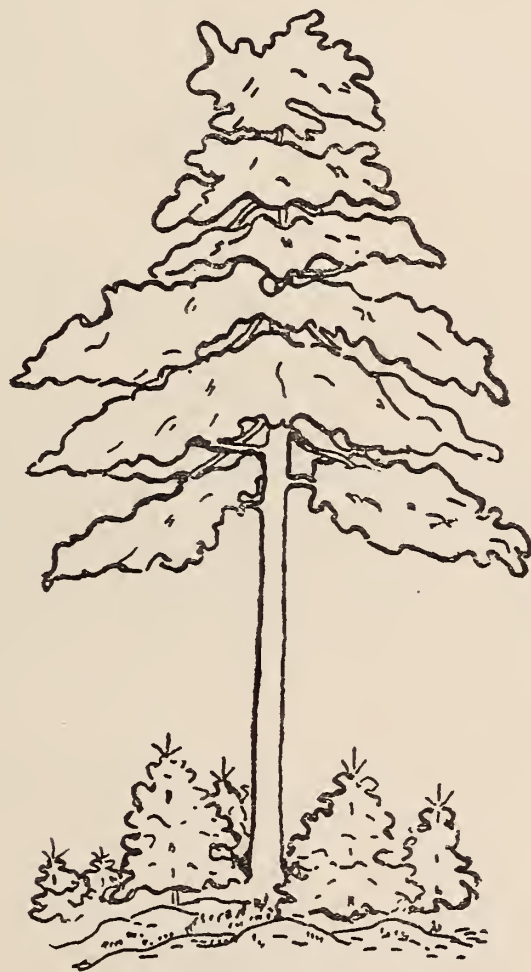
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# THE BLISTER RUST NEWS



January, 1930.

Volume XIV

Number 1.

U.S. DEPARTMENT of AGRICULTURE  
BUREAU of PLANT INDUSTRY  
OFFICE of BLISTER RUST CONTROL



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UNITED STATES DEPARTMENT OF AGRICULTURE  
BUREAU OF PLANT INDUSTRY  
WASHINGTON, D. C.

T H E B L I S T E R R U S T N E W S

Issued by the Office of Blister-Rust Control  
and Cooperating States.

Vol. 14, No. 1

January, 1930

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THE PART OF GOOD CITIZENS

A people without children would face a hopeless future;  
a country without trees is almost as helpless; forests which  
are so used that they cannot renew themselves will soon van-  
ish, and with them all their benefits. When you help to  
preserve our forests or plant new ones you are acting the  
part of good citizens.

Theodore Roosevelt.

PROGRESS OF BLISTER RUST CONTROL IN THE EASTERN STATES IN 1929.

In New England and New York, 919,755 acres were cleared of 7,262,127 wild Ribes and 74,654 cultivated bushes at a per acre cost of 18.6 cents. These totals include 131,492 acres of re-eradication work and 39,020 acres of control work on State forests. In Rhode Island, an additional 6,609 cultivated bushes were destroyed in connection with a cultivated black-currant eradication project. Public participation in control work in New England and New York during 1929 is evidenced by expenditures of \$41,323.28 and \$50,381.79, respectively, by 158 towns and 4,369 individuals.

Pennsylvania began systematic control work on its State forests this year by eradicating Ribes from 4,877 acres. In Michigan, as a result of its first blister-rust control appropriation, 2,378 acres of State forests were protected and an additional 380 acres worked in cooperation with one town. Control work in Wisconsin was limited, due to lack of funds, to 120 acres of individually-owned land. In addition to the above, work on Federal-owned lands during 1929 resulted in the protection of the virgin pine stand known as "Hearts Content", on the Allegheny National Forest and the Forest Service nursery on the Monongahela National Forest. Control operations were begun on the pine areas of the Shenandoah National Forest and the Acadia National Park. This work resulted in the destruction of 102,144 Ribes on 3,283 acres at a cost of \$1,746.74.

Adding the results accomplished in Ribes eradication during 1929 to those for the period 1918 to 1928, inclusive, shows that in the Eastern States, 7,810,367 acres have been cleared of 78,151,265 wild Ribes and 535,417 cultivated bushes at an average per acre cost of 21 cents. This acreage includes 482,199 acres of re-eradication work performed since 1923. Since 1918, over thirty thousand individuals have cooperated in Ribes eradication work. Thousands of other individuals have permitted the destruction of their cultivated bushes to help protect the pines. In addition, 1,177 town appropriations, chiefly in New Hampshire and Maine, have made available over \$342,000 for cooperative eradication of Ribes. In conjunction with the regular control program, nursery sanitation measures are being applied to insure the production of disease-free planting stock. Cultivated black currants, Ribes nigrum, are also being systematically eliminated from the pine-growing regions of the Eastern States.

Data on Control Work in National Forests and National Parks in 1929.

<u>Project</u>	<u>Ribes Destroyed</u>			<u>Acres Erad.</u>	<u>Costs</u>	<u>Per Acre Cost</u>
	<u>Wild</u>	<u>Cult.</u>	<u>Total</u>			
Allegheny Nat'l. Forest, Penna.	23,020	8	23,023	461	\$ 193.30	\$.43
Monongahela " " W. Va.	3,108	73	3,181	414	143.53	.35
Shenandoah " " Va.	1,560	2	1,562	1,260	169.51	.13
Acadia National Park, Me.	74,373	0	74,373	1,148	1,235.40	1.08
Totals	102,061	83	102,144	3,283	\$1,746.74	.53

E. C. Filler, Mass.



## RESULTS OF COOPERATIVE BLISTER RUST CONTROL IN NEW HAMPSHIRE

Confronted with weather conditions which seemed to promise as wet a season as that of the two previous years, eradication of currant and gooseberry bushes was commenced late in April. However, the "Weather-man" relented quite suddenly, and provided exceptional out-of-door working conditions during practically the greater portion of the field season.

As reported in the June issue of New Hampshire Forests, 95 towns and cities had made available at town meeting, or during the weeks which ensued, \$29,300. The number thus cooperating was 16 in excess of 1928. Nine towns undertook control work for the first time. In addition, 31 individuals and concerns put up about \$3,000 for control measures upon their own lands.

As has been the case for the last five years, control measures fell into two main divisions, viz: initial and re-eradication. The conclusion of the field season indicated that in town, city and individual initial work 155,729 acres had been examined and 1,866,500 wild currant and gooseberry bushes destroyed. (This is an average of about 12 bushes per acre.) The average cost per acre for this was but nineteen and eight-tenths (cents). Lands covered for the second time, after an interval of five or more years, aggregated 96,425 acres, upon which only 236,400 bushes were found. (These bushes averaged 2.4 to the acre.) Most of these proved to be either seedlings, or sprouts developing from broken-off roots. Re-eradication costs averaged but ten cents per acre. In addition to the wild species destroyed, 6,644 cultivated bushes were removed.

Owing to the extremely dry weather so characteristic of the summer months, control measures in many sections of the State had to be curtailed early as bushes were fast losing their leaves. As this condition made their identification difficult, not to say uncertain, several projects were abandoned until next season.

In many localities, where control measures have not yet been put into effect, or where it has been delayed until quite recently, many serious outbreaks of the rust were discovered on white pines. Among the most notable, on account of the large area, and the high percentage of the trees infected, are tracts in Acworth and Hanover.

L. E. Newman

(Extract from "New Hampshire Forests, Vol. VI, No. 4, December, 1929, p. 13.)

### NEW COVER PAGE

The editor wants to call the attention of the blister rust agents to the new cover page which will be tried out at least during 1930. Do not hesitate to make any comments, favorable or otherwise, concerning this page for it is not a product of the editor. We have, however, to credit Mr. John M. Palmer and Miss Brycie Bayles of the Washington Office for the new cover page which we think is a decided improvement over the old one. Mr. Palmer is responsible for the general design and Miss Bayles for the drawing of the pine tree.

The editor wishes to thank Dr. Walter H. Snell of Brown University at Providence, and Mr. John MacG. White, Blister Rust Agent at Waterville, Maine, for suggested designs for our new cover page.

HEAVY INFECTION IN YOUNG PINE AT NORTHPORT, MAINE

Mr. H. G. Bradbury, newly appointed agent in Maine, writes under date of January 2, concerning a pine lot in Northport, Waldo County, on which he had established a 1/2 acre study plot. The results of the study follow:

243 pine trees examined	
102 infected with blister rust	
42% infection.	
Killing cankers (stem)	15.2%
" " (limb)	26.8%
Cankers by age	No.
1919	1
1919 to 1923, incl.	16
1923 to date	<u>128</u>
Total infection found	
on trees	145
Average height - 6 ft.	

Mr. Bradbury says "We are right out after 'em this winter", and it looks like it.

- - - - -

NEW HAMPSHIRE TAX COMMISSION TO USE BLISTER RUST  
SCOUT MAP IN ASSESSMENT WORK

One never knows how far an idea may be developed when it is in the incubation stage. The writer little thought back in 1924, when the first of the preliminary scout work was attempted, that they would ever become a permanent feature of control work in his own district. He has since had the pleasure of seeing it adopted by New Hampshire blister rust agents and had it favorably commented upon at two annual conferences.

Quite recently, however, a request for a copy of the scout map of the town of Boscawen was made by Mr. Edgar C. Hirst, former State Forester of New Hampshire and now Secretary of the New Hampshire Tax Commission. Mr. Hirst had previously become interested in this phase of blister rust control when a control map was made of his property.

It will be recalled that the scout map contains a great amount of detail, such as stone walls, wire fences, wood roads, swamps, runs, growth type and so forth.

Mr. Hirst plans to use the scout map as the basis for plotting on property lines of various land owners. The map readily lends itself to such use since property lines are so often stone walls, wire fences, brooks, etc., all of which are already plotted on the map. By the use of these details, Mr. Hirst believes it will be possible to secure a graphic picture of property ownership with a minimum of expense.

T. J. King, N. H.



COOPERATIVE RIBES ERADICATION IN NORTHERN IDAHO

For the benefit of the eastern blister rust control force and others interested in our general protective work, a summary has been made of the work in Idaho from the detailed report given in the Western Blister Rust News Letter for December 15, 1929.

During the summer of 1929 large-scale application of stream-type eradication was carried out on the lands of the Clearwater and Potlatch Timber Protective Associations. This work was financed on a cooperative basis, the timber protective associations concerned, the State of Idaho and the Office of Blister Rust Control providing funds for the purpose.

The information given in this brief treatment of these projects is taken from the annual reports of Anderson and Guernsey.

On both associations *Ribes petiolare* was eradicated by spraying with a 10% solution of Atlacide; all other species of *Ribes* were removed by hand pulling.

On the lands of the Clearwater Timber Protective Association a total of 21,500 acres of white pine type were protected, while in the general vicinity of Elk River on the Potlatch Timber Protective Association 57,010 acres of white pine type were protected. Protective work was necessary, for blister rust either on pine or *Ribes* has been found on the lands of both Associations.

While impossible to ascertain the number of bushes in the areas sprayed, which were largely of the stream type, where the *Ribes petiolare* appeared in concentrations, a count was made of the *Ribes* bushes which were hand-pulled. These were of five species:

Currants

<i>Ribes lacustre</i>	964,213
" <i>petiolare</i>	49,889
" <i>viscosissimum</i>	10,314

Gooseberries

<i>Ribes inerme</i>	5,105
" <i>irrigua</i>	<u>4,996</u>
Total	1,034,517

The average number of *Ribes* on the lands of the two associations, actually worked, were 281 and 267 per acre, respectively.

Extract by R. G. P.

REFORESTATION IN NEW YORK

A proposed amendment to the State Constitution permitting the purchase during a period of ten or twelve years of 1,000,000 acres of land to be used for reforestation work at an expense of about \$20,000,000, was considered by the State Reforestation Commission meeting December 18 at New York, according to the press of December 19. The report says: "Plans for the amendment, still in indefinite form within the commission, may be brought before the legislature the first of next year."

SCOUTING FOR PINE INFECTIONS IN MICHIGAN

The source of numerous *Ribes* infections which have sprung up both in the upper and lower peninsulas of Michigan had not yet been located.

Eight men were therefore assigned to blister rust scouting to determine the presence of infection on the pines. Two men were detailed to scout the lower peninsula and six the upper peninsula.

Mr. Hodgkins' party started work in the upper peninsula. They found blister rust on pines near Iron Mountain scattered over a considerable area. Cankers dating from 1923 to 1927 were recorded. At one point where the infection was heaviest, it appeared that one-third or more of the trees were infected. Here the rust was found to be scattered over an area approximately three-quarters of a mile east and west. No study plot was made as the snow was so deep that many of the small trees were under the snow, also many of the lower branches of the larger trees. The age of the pines ranged from 36 years down to seedlings. *Ribes cynosbati* undoubtedly is the alternate host from which the rust spread to the pines since there were some large bushes of this species among the pines and many small ones, ranging from a few scattering bushes to about 200 per acre. The location of this infection was at an elevation of approximately 1,100 feet. Twenty-four cankers were tabulated and origin checked as follows: 1 - 1923; 4 - 1924; 5 - 1925; 10 - 1926; and 4 - 1927. These figures have a tendency to show that older cankers are present.

Nine miles south, in the township of Norway, a few 1927 cankers were found scattered along the edge of the pine stand on property of the Penn Iron Mining Company. Rust was found in the vicinity about three weeks ago; a 1927 canker by Agent Kroeber. It might be well to mention the fact that it was Agent Kroeber that found the first infected pine at Iron Mountain, on Thanksgiving Day, a 1925 canker. A few minutes later Agent Adams found two 1926 cankers on the same tree.

Agent Philip E. Barber writes as follows concerning the scouting in the lower peninsula:

"We covered considerable ground in Michigan and made about 20 interviews which will help considerably with the blister rust control work in this State. We also located several stands of pine and some reproduction. It was very difficult scouting these pine lots since there was a heavy fall of snow and the trees were loaded down and after the 25th of November it snowed practically every day. When we reached Indian River where I was to put in several study plots, there was 20 inches of snow and it was still snowing so Mr. Stouffer decided to discontinue the work for the present. In talking with some of the people at Traverse City and Indian River, they informed me that this is an exceptional winter since they haven't had as much snow at this time for many years."



NINETEEN HUNDRED THIRTY

Nineteen thirty is with us,  
The year when our program ends.  
Perhaps if we pause to consider,  
We'll be able to make some amends.

Starting the original schedule,  
There were 8 million acres to do,  
But we failed to complete the program  
By 2 million acres too few.

When we ask ourselves the reason,  
There are all sorts of causes in sight,  
But one stands out above others  
Pertaining solely to us, by right.

Perhaps one weak spot in our program  
Is due to lack of adequate plans,  
Even tho most of the causes  
Are entirely out of our hands.

Year after year as we struggled  
Trying to carry our load,  
We were always being reminded  
To keep well within the road.

But some of us didn't consider  
How we had failed to produce,  
Resulting that the acreage needed,  
Was not sufficiently reduced.

We know there are acres of pine land  
Where work has already been done,  
Which need our help as badly  
As those which were never begun.

Whether our task is accomplished  
Depends much, on how well we think.  
We must not only ponder the question  
But act quickly before we sink.

There isn't much time now left to us  
So let everyone knuckle down hard,  
To make nineteen hundred and thirty  
The best year we have had on the card.

W. J. Endersbee, Mass.

-----  
ELM TREE DISEASE

"America's most beautiful shade tree, the stately elm, may follow the chestnut to destruction if infected by the Dutch elm disease, which has already devastated the elms of Holland, Belgium, France and Germany, according to Dr. Christine Buisman, professor of plant pathology of the University of Utrecht, who spoke before the American Phytopathological Society. Methods of controlling the disease have not yet been found. The only thing that can be done now is to test varieties of elms to determine their resistance and propagate the most promising ones. There is nothing to show that the disease will decrease in the course of time....The disease first appeared in Holland in 1920. It has gradually spread through Belgium, France and Germany, and since 1927, it has been reported from England. The spores of the causal agent are principally disseminated by the wind and enter the wood through small wounds." (Science, Jan. 3.)

### SPECIMEN COLORING

Ordinary colored pencils may be used in coloring specimens of Ribes infection as well as making a very realistic job of coloring the blisters on pine cankers.

The wax base which is used in the manufacture of colored pencils is soluble in gasoline. Consequently a small amount of the colored wax scraped with a knife from a pencil of the required shade and mixed with a little gasoline on a piece of glass or other hard surface, produces a colored paste which is easier to use than oil color and dries instantly. The color may be applied with a small artist's brush, which may be purchased at the five and ten at the rate of two for five cents, or with a small stick shaved down to a thin wedge.

In the case of pine specimens the preparation is the important part. These should be gathered when they are at the height of fruiting, just before the blisters burst. They should be allowed to dry for a day or so and then sprayed with white shellac thinned with denatured alcohol to about one-half the commercial strength. Clear lacquer may also be used. Additional coats should be applied each day so that a tough film is formed over the fruiting bodies. The specimens should then be stored away to dry out. In drying out, the spores lose their fresh look and color but that can be restored by the application of color as described. The bark on specimens can be freshened by applying a coat of walnut or oak wood dye with a camel's hair brush.

Very satisfactory specimens of Ribes leaves have been prepared by pressing the freshly gathered leaves between two pieces of heavy cloth with a hot iron. The green color seems to hold better this way than when they are pressed in books.

Color may be applied to leaf infection either with the dissolved wax color or by dipping a colored pencil into gasoline, which softens the wax to some extent.

A good rust color may be obtained by adding a small amount of wax powder from a red pencil to that of yellow. This gives a good orange shade.

Lewis C. Swain, N. H.

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### WHITE PINE BLISTER RUST CONTROL IN VERMONT

During the past season white pine blister rust control work has been carried on in 31 towns in Vermont. There were 110,671 wild currant and gooseberry bushes and 453 cultivated ones pulled from 13,300 acres. The total cost of the eradication work this season is \$6,221.14 of which amount \$5,894.34 was expended by the individuals, \$27.00 by the town of Fairlee and \$299.80 by the State.

Pine lots should be scouted every two to five years for the presence of new bushes which have come in since the last eradication.

(Extract from "Green Mountain State Forest News," Vol. V, No. 3, Montpelier, Vt., December, 1929.)



BLISTER RUST CONTROL WORK IN NORFOLK COUNTY, MASS. - SEASON OF 1929.

Agent E. M. Brockway has recently published the results of blister rust control work of the past year in the Norfolk County Agricultural Bulletin. He writes:

In connection with the campaign to prevent the further spread of the white-pine blister rust in the white pine sections of Norfolk County, examinations were made during the summer and fall of 1929 on more than 71,000 acres of land, in the towns of Bellingham, Franklin, Medfield, Millis, Needham, Norfolk, Norwood, Walpole, Wellesley and Wrentham.

Control work in the county was first inaugurated in 1927 and to date examinations have been made of all the important tracts of white pine. Where the alternate host plants of the rust, that is, currant and gooseberry bushes, have not been found in abundance in the woodlands examined, the bushes have been removed by the inspectors employed by the Massachusetts Department of Agriculture working under the direction of the Federal Blister Rust Agent in the district. Where, on the other hand, the host plants have been found in considerable numbers, the owners of the white pine tracts involved have assisted in the control work by furnishing labor to help in locating and destroying the menacing bushes. There were 73 such cooperators doing this work during 1929.\*\*\*

In the work of the year, more than 20,00 wild currant and gooseberry bushes were uprooted in the towns of Norfolk County. In addition to the work of eliminating the wild varieties of these host plants, gardens were also inspected in order to locate the cultivated varieties that might be a menace to the nearby pines. All black currants in the entire townships noted above were removed. This is a part of the plan to rid the entire State of this particular menace.  
\*\*\*

FOREST PLANTING IN NEW HAMPSHIRE DURING 1929

White Pine Forms 83.6% of Trees Planted.

The State Forest Nursery, located at Gerrish, shipped during the present calendar year 1,202,775 trees to individuals, and planted 105,000 on State lands, a total of 1,307,775 for the year.

Individuals and corporations purchased 625,225; members of the 4-H clubs 392,050 (of which 319,800 were given free); 185,500 free trees were received by towns for planting on town forests, and the balance was used on State forests.

In the 4-H club plantings, which were carried on under the supervision of the County Club Agents, Carroll County lead with 63,250; Merrimack 62,950; Grafton 50,500; Rockingham 46,500; Hillsboro 44,100; Stafford 33,750; Belknap 32,000; Cheshire 28,000 and Sullivan 11,500.

Of the species ordered white pine led the demand by a very large percent. The following indicates the number of trees by species. White pine 1,093,275; Red or Norway pine 99,750; White spruce 72,550; White ash 32,150; and Norway spruce 10,050.



This output is slightly less than last year. The reduction is probably due in a large measure to the unsatisfactory tax situation and the low stumpage prices on the cheaper grades of pine lumber. While prospective planters are raising trees for a market forty or fifty years hence, many people hesitate to plant on account of the present market prices. These returns have proved to be less than was previously realized and less than should be secured when the present plantings are harvested. With a more sane and practical system of taxing growing timber, with the increase in the use of wood, it is only reasonable to expect an adequate and satisfactory return from reforestation.

L. N. Watson.

(Extract from "New Hampshire Forests," Vol. VI, No. 4, December, 1929, p. 10.)

MAINE MAN FIRM BELIEVER IN PLANTING WHITE PINE DESPITE THE  
NECESSITY OF FIGHTING BLISTER RUST AND THE WHITE PINE WEEVIL.

S. R. Penney of Mechanic Falls who has planted approximately 85 thousand pines, is a firm believer in blister rust protection. All of his territory has been worked two or three times to safeguard his trees from the rust.

His first planting consisted of transplanting about three acres of native pine. He lost a few trees from this first planting but has filled in most of the open spaces. He has had a battle to keep ahead of the weevil, particularly on this first planting. Nearly every year his men have clipped the infected leaders and carried them from the area to be burned. He is of the opinion that it matters little whether or not the leaders are burned, as one year he carried some of the leaders to his home and spread them on his lawn for observation. His contention from his observation is that the grubs die anyway when the leader is cut, as there is not sufficient food then for any of them to survive any length of time.

G. H. Kimball, Maine.

Edit: The above note of Mr. Kimball was forwarded to Dr. Craighead in charge of Forest Insect Investigations in Washington, who has written as follows:

"In reply to your memorandum of January 8, I would say that simple removal of the leaders infested by the white pine weevil would only serve as an effective control measure if cut before the eggs hatch or immediately thereafter. If cutting were postponed until the tops show withering or fading foliage, there is little question but what the weevils would come through. In general, I think it is a very dangerous practice to recommend."

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DR. WHETZEL TALKS ON SUCCESSFUL WAY OF SECURING COOPERATION

Dr. W. H. Whetzel of Cornell University gave a very interesting lecture at the National Museum, December 20, 1929, on financial cooperation from farmers, and others, whom the Federal and State Departments of Agriculture, and the various Agricultural Experiment Stations are striving to aid in their many problems. Dr. Whetzel stated that the attitude of a great many people towards crop-growers was wrong, in that they considered it wrong to ask the farmer for any financial cooperation, thereby making him either an object of charity or a grafter. In most cases Dr. Whetzel found that the farmer preferred to pay for services rendered him. He also found that when farmers cooperated financially they were more likely to pay attention to advice given by the State or Experiment Station men, and the results were greater than when the services and advice were given "free gratis".

Dr. Whetzel stated that in 1907 or 1908 when he was first appointed Professor of Plant Pathology at Cornell University (he by the way had the honor of being the first Professor of Plant Pathology) he was greatly hampered in his work by lack of funds. As the people kept writing in asking him to come to their farms and look over certain crops and give advice, he found that he had insufficient funds to take care of all the requests. After studying for some time on how to remedy this situation he thought of the plan of replying to such requests by stating that he would be glad to look over the farmer's crops in question and give him advice and service if he, the farmer, would pay his expenses there and back and while on the job, but not his salary. He found that this plan worked very well and it has been followed ever since by the Department of Plant Pathology at Cornell University. When several farmers in a community wanted advice on the same subject they would organize, under Dr. Whetzel's ship, what is known as an "Industrial Fellowship". They would sign a contract agreeing to pay a certain amount of money for a certain length of time to help defray the services of a young man sent out from the University. Generally the University sent out very able young men who were working for their doctor's degree. Since this plan has worked out so well for Cornell, Dr. Whetzel thinks it could be used to advantage in certain Government Departments.

Helen T. Wright.  
Dist. of Col.

SPECIMENS AND INFORMATION DESIRED

It is desired by the Office of Forest Pathology of this Bureau that our blister rust agents be on the lookout for the Woodgate rust on Scotch pine, and the Douglas Fir Canker.

Whenever it is possible specimens should be secured and forwarded with data on place and date of collection, name of collector, and any other specific data concerning exact location of find which would enable one of the Forest Pathology men to further investigate the matter.

These two fungi so closely resemble other fungi that statements concerning their discovery should not be broadcasted by our men. Rather should we wait until the information has been released by the Office of Forest Pathology.

Roy G. Pierce.



WARNER, N.H., TOWN FOREST PROVIDES FUNDS FOR BLISTER RUST CONTROL

Town Forests in New England are, as a whole, in such a stage of infant development that not many of them have as yet produced much in the way of revenue to the respective towns in which they are located.

New Hampshire has one town forest which stands out as a practical example of the promise these municipal forests hold. It is situated in the Town of Warner (Merrimack County) and was given to the town by Admiral Lloyd H. Chandler, U. S. N. (retired), in honor of his father, the late Senator Wm. E. Chandler. The tract of woodland includes the tops and slopes of the Mink Hills in the southern part of the town. These 800 acres were acquired at different times by Senator Chandler who spent his summers in the little village of Waterloo nearby. Senator Chandler invested his time and money on these forest lands planting up old fields, building roads and trails to the summits and encouraged people to visit and enjoy the view. At Mr. Chandler's death his son desired to carry out his father's wishes to have this tract of forest land held intact as a public forest; and such it is today. The New Hampshire Forestry Department acts in an advisory capacity in the care and management of this valuable property.

Valuable merchantable timber, white pine, ash, red oak and hemlock in need of cutting, together with many hundred cords of wood have been removed. All cuttings have been disposed of locally, the timber to a local permanent sawmill, the cordwood to the schools, a local wood alcohol and charcoal manufacturer, and the balance to local citizens. The sales have netted several thousands of dollars which are placed in a special town forest fund, which is continuous and allowed to accumulate. Part of the proceeds have been spent in reforestation and other improvement work. At present there are \$2,200.00 in the town forest fund.

When the writer took over the blister rust control work in Merrimack County in 1922, the Selectmen of Warner made a small sum of money available for the scouting of the town forest area. The following year the town voted additional funds for removing the Ribes from the forest. In 1923 and 1929 the townspeople also voted, at their annual town meetings, appropriations from town forest funds for carrying on control work on the general land area of the town. A total of \$1,225.00 has thus been made available from this source. In addition the town has appropriated \$2,600.00 for control work from general town funds.

It would be interesting to learn whether any of the other agents have had their control work thus aided by a Town Forest.

T. J. King, N. H.

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PERSONALS FROM MAINE

Solon D. Conner, Agent for Cumberland and York Counties resigned last month. "Sol" has been with us several years. We are losing a good man. The unworked towns left in his territory are to be added to Agents Curtis' and Kimball's districts.



Mr. Harrington G. Bradbury of Hollis, Maine, who has been one of our scouts for the past several years, was recently appointed a Blister Rust Agent and is now stationed at Belfast where he will conduct control work in Waldo, Penobscot, and Hancock Counties. Agent Bradbury recently laid out an acre study plot in the town of Waldo, infection running nearly 28%. He is gathering similar data in other towns in order to have facts to back up his statements when approaching pine owners relative to raising town funds for 1930 control work.

Dec. 18, 1929.

W. O. Frost, Maine.

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FORM ARTICLE USED IN LOCAL PAPERS BY AGENT BROCKWAY OF MASS.

Mr. E. M. Brockway has sent in an article which he plans to use in the local papers of various towns where control work was carried on during 1929. The phrases in parenthesis are used to fit the particular case of each town. It is believed by the editor that this news article might be of value to other agents who have not yet informed the people in the various towns of their district of the local blister rust situation.

White Pines in \_\_\_\_\_ (town) \_\_\_\_\_  
Protected Against Blister Rust.

State and Federal Departments of Agriculture Assist  
Property Owners in Protecting White Pine  
Against Serious Plant Disease.

A campaign was carried on in \_\_\_\_\_ (town) \_\_\_\_\_ during the summer and fall of 1929 to prevent the further spread of the white pine blister rust disease.

It has been pointed out before, that the only way to stamp out this disease of white pine is to eliminate both wild and cultivated currant and gooseberry bushes from sections where white pine is to be an important forest crop.

During the season (many) (a scattering number of) (a great many) (only a few) wild currant and gooseberry bushes were found in the pine areas in the town. These were uprooted and thus destroyed. In sections where the bushes were numerous, owners of the land were required to assist in the work under the direction of inspectors employed by the Massachusetts Department of Agriculture. More than \_\_\_\_\_ acres of land were examined in the town during the season.

(Many) (a few) (some) (a number of) property owners were requested to sacrifice their cultivated varieties of these fruit-producing shrubs, and by so doing they have helped their neighbors, friends, and the community at large in protecting the white pine now growing in the town. White pine is considered an important asset to any town and by protecting these trees from blister rust, a community interest has been conserved.

The State Department of Agriculture is grateful for the splendid cooperation received during the progress of control work in \_\_\_\_\_ (town) \_\_\_\_\_.



THE FUTURE OF FOREST PARASITES IN THE UNITED STATES.\*

By J. S. Boyce,  
Director, Northeastern Forest Experiment Station.

Since the experience of the writer has been largely with fungous parasites and less with insect parasites of forest trees, this paper will concern itself mostly with parasitic fungi, but the general principles discussed are applicable to both insects and fungi.

Forest parasites can be divided into two broad classes, introduced and native, and between the two there are very marked differences both as to behavior and methods of control. Differences which it seems the forestry profession does not fully appreciate, to judge from the rather apathetic attitude or even individual opposition in the past to control measures directed against an introduced parasite. An introduced parasite frequently threatens the commercial extinction of a tree species; a native parasite never does so. Chestnut blight (Endothia parasitica) brought in from Asia is rapidly reducing chestnut (Castanea dentata) from its position of an unusually valuable forest tree to that of a shrub. This has already resulted in a very heavy reduction of forest land values within the range of chestnut. Furthermore, native parasites can be largely controlled by proper silvicultural practice, but it is difficult to visualize any silviculture that could control chestnut blight or even white pine blister rust (Cronartium ribicola), an importation from Europe, although some aid to control can be attained with this last named parasite by maintaining a fully stocked stand of pine, so that currant and gooseberry bushes cannot find openings in the stand in which to establish themselves. For most introduced parasites direct control is necessary, and direct control is expensive.

After an introduced parasite has been discovered there are two courses open - do nothing and let a tree species be wiped out, either because it is not considered valuable enough to save or because it will be replaced by other valuable species; or apply direct control measures. In some cases both courses may be followed, as with chestnut blight, when the policy of apathy was replaced by action after the parasite had spread beyond hope of control. Justification for this policy of following the line of least resistance may be had if in the future the chemist reduces wood to cellulose and lignin so that one species is as good as another for the end product. Red spruce (Picea rubra) would then have no advantage over red maple (Acer rubrum) for pulp, or western white pine over white fir (Abies concolor) for boards. But it does not seem advisable to let our action against introduced parasites be influenced until this possibility becomes an actuality. Furthermore, the decision as to whether or not a species should be protected by direct control should be largely left to foresters. The role of the pathologist or entomologist is to thoroughly investigate the parasite, in advance of the introduction if possible, and advise as to what it may be expected to do and the methods to be used in its control.

\*From Journal of Forestry, February, 1929, Vol. XXVII, Number 2; Published by the Society of American Foresters.



Another argument in favor of not attempting to control directly an introduced parasite is that an exotic tree species can be used to replace the doomed native tree. The cost of this may well exceed the cost of direct control of the introduced parasite. Fortunately it is now becoming recognized that the importation of foreign nursery stock is a most dangerous practice, which at any time may result in another disastrous epidemic similar to chestnut blight or white pine blister rust, and that foreign species should be introduced only as seed and the stock grown here. But any exotic tree is an uncertain quantity and if introduced should be grown experimentally only, until such time as its desirability and success is well established. It is not until the end of the rotation that final judgment can be rendered as to the success or failure of an introduction. First, there is the problem of securing seed of the best quality from the optimum, native range of the species; second, the difficulty of proper site selection; and finally, the possibility that the species sometime in its life may be attacked by a native parasite hitherto not serious. Any one of these factors can spell failure. The Macedonian pine (Pinus peuce), because of its resistance to blister rust is a possible substitute for western white pine (P. monticola), but the reaction of Macedonian pine to two canker diseases (Scleroderris sp. and Dasyscypha fusco-sanguinea) common to western white pine within its natural range is highly problematical. Furthermore there is no information as to the rate of growth or form of this tree when established in North America.

Nevertheless circumstances which cannot be foreseen or controlled may some day necessitate the extensive establishment of a foreign species in this country. To meet such a situation experimental plantings of exotic species should be established in the various forest regions to determine the reaction of promising foreign species to a new environment. These plantings cost relatively little to start and maintain, but require a long time to develop and furnish complete information. The knowledge obtained by the British through arboreta and experimental plantations has been the basis for their extensive campaign of reforestation, prosecuted so vigorously since the World War.

Finally there is the possibility of developing a strain of the native tree resistant to the introduced parasite, as is now being attempted with chestnut against chestnut blight, but this too is an uncertain and time-consuming measure.

(Continued in next issue)

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#### SELLING FARM TIMBER.

Farmers who are contemplating selling some timber from their farm woodlands are advised by the United States Forest Service to sell by log or lumber scale, with methods of cutting specified, rather than to sell stumpage by boundary. They are more apt to get full value and the timberland will have a greater producing value after the cutting is done. Mark the trees to be cut - only trees above a specified diameter limit. Also mark trees of inferior species and diseased or insect damaged trees the removal of which will improve the stand. The contract of sale should provide for the safeguarding of young growth.



### NEW FUNGOUS PARASITE ATTACKING WHITE PINES

Believing that our men will be especially interested in any fungous disease of the white pine, Dr. Ray R. Hirt of the New York State College of Forestry at the Syracuse University, was requested to write a news item concerning his discovery of a Dasyscypha canker of white pine which he found in the Upper Peninsula of Michigan. His letter of November 11, follows:

"In the June number of Phytopathology of the present year, (1929) C. R. Stillinger, associate pathologist, Office of Plant Quarantine and Control Administration, stated that he had found what apparently is a parasitic form of Dasyscypha fusco-sanguinea Rehm attacking Pinus monticola Dougl. The article was especially interesting to me for during the summer of 1928 I had found a species of Dasyscypha that was obviously parasitic upon Pinus strobus L. within a limited area in the Upper Peninsula of Michigan. Within this area the fungus was causing some damage upon young trees. A few of the cankers with fruiting bodies of the fungus were gathered, some of which were later sent to Dr. W. H. Snell who in turn forwarded them to Dr. F. J. Seaver for identification. (Dr. Snell had reported in the March number of Phytopathology that he had found Dasyscypha agassizii (B&C) Sacc. as a common secondary fungus on blister-rust cankers in the Danne-mora plantation.) Dr. Seaver identified the fungus as Dasyscypha fusco-sanguinea Rehm although the size of the ascospores varied somewhat from the measurements commonly recorded for that species.

"Whereas the fungus may cause no serious loss in a stand, it is of interest as another parasite of white pine, especially so since the young cankers may easily be mistaken for those caused by Cronartium ribicola Fischer."

### NEW HAMPSHIRE FORESTRY EXHIBIT MAKES TOUR OF STATE

The Better Farming train, operated by the Boston & Maine Railroad throughout New Hampshire last October, made available to the farmers in every county, exhibits showing ways and means of promoting more profitable agriculture. The farm woodlot was given equal attention along with dairying, fruit, poultry, potatoes and livestock.

An exhibit prepared by the State Extension Service, the State Forestry Department and manufacturers of wood products stressed the important part which the forests play in the economic life of this State. The value of the farm woodlot was also well illustrated and it was shown how such tracts could be so managed as to become even more profitable. The influence which forests exert in recreation was also emphasized.

The activities of the 4-H Forestry Clubs was well indicated by models worked up by boys and girls, and by photographs. The importance of protecting forests from fire, insects and disease was also stressed.



The train made seventeen stops, at six of which talks on forestry were given by the following speakers: Fred E. Batcheller of Marlboro; V. A. Beede of the Brown Company; James E. Scott, Supervisor, White Mountain National Forest; Prof. K. W. Woodward; State Forester J. H. Foster and K. E. Barraclough.

Interest in the damage occasioned by the white pine weevil was evident during the many stops in the southern portion of the State. The white pine blister rust exhibit was studied carefully by a great many persons. Pruning of white pine in order to produce quality lumber was well illustrated by boards sawed from trees which had been treated in this manner. The numerous questions in connection with the planting of trees indicated a wide interest in reforestation.

The University of New Hampshire Extension Service, The State Forestry Department, The New Hampshire Lumbermen's Association and the Society for the Protection of New Hampshire Forests cooperated in putting on the forestry exhibit.

K. E. Barraclough.

(Extract from "New Hampshire Forests," Vol. VI, No. 4, December, 1929, p. 6.)

#### MINNESOTA WOODLOT FURNISHES PROOF OF EFFECTIVENESS OF CONTROL

Does the eradication of currants and gooseberries protect white pine from blister rust?

A mixed pine and hardwood stand owned by two men near Taylors Falls offered a chance to give an answer to this question, backed up by positive proof. One of the owners requested and paid for the eradication of currants and gooseberries in his portion of the stand in 1919 by blister rust men. In 1925 he re-eradicated the bushes on his side of the fence. His neighboring owner could not see any connection between currants and gooseberries and a disease on pine.

The smaller trees on an acre in both protected and unprotected pine were closely examined to ascertain the presence or absence of blister rust. Of the 1468 white pine under twelve feet in height on the acre in the protected area, only 49, or  $3\frac{1}{4}\%$  of the trees were infected. Of the 1955 pine under twelve feet in height in the unprotected portion of the stand,  $25\frac{1}{2}\%$  were infected.

Twenty-five gooseberry bushes were found on the acre in the protected portion of the stand and 75 on the acre in the unprotected portion.

The difference in the amount of infection in the unprotected and protected portions of the stand certainly shows the value of white pine blister rust control measures.

L. B. Ritter, Minn.

(Extract from "The Smoke Screen," December, 1929.)



### WHITE PINE PLANTED ON MICHIGAN STATE FORESTS

According to the last Biennial Report of the Michigan Conservation Department\*, twelve State Forests had been organized by 1928 with a total gross area of 620,710 acres, of which the State owns 377,304 acres. The net acreage that had been restocked by planting was 51,105 acres or 13.5% of the State-owned land within the Forests. Twenty-three percent of the reforested area, or approximately 11,754 acres, is set out to white pine, 68% to Norway pine, and 9% to Jack, Scotch and other species. White pine plantations have been made according to the last two biennial reports of the Conservation Department on 9 of the 12 State Forests, namely, the Alpena, Black Lake, Fife Lake, Hardwood, Higgins Lake, Houghton Lake, Ogemaw, Pigeon River, and Presque Isle.

The above data has been compiled from reports of the State Forester, Mr. Marcus Schaaf.

It would be interesting to learn of the Ribes conditions on these State Forests and whether any systematic blister rust control work had been carried on, on them as yet.

Roy G. Pierce.

\* Fourth Biennial Report for 1927 and 1928, received June, 1929.

### FORESTRY PROGRAM FOR VERMONT

At the request of the Forestry Committee of the Vermont Commission on Country Life, Mr. R. M. Ross, Commissioner of Forestry, made the following suggestions as to the necessary developments for a progressive forestry program for Vermont.

He believed that the time had arrived when it was necessary to divide the State into six forestry districts with headquarters located at Cambridge, West Burke, Montpelier, Brandon, Sharon and Wardsboro.

A full time man would be employed in each one of these districts. At the present time the department has four men in these districts who are carried only part time due to an insufficiency of funds. For one half of their time these district men would be employed on forest fire prevention and education. They would spend the other half of their time upon white pine blister rust eradication, encouraging landowners in reforestation projects and aiding the timberland owners in finding a suitable market for their timber products. During the winter their time would be spent on an extensive educational campaign to promote forestry and working on the State forests making thinnings and scaling timber to be sold from these forests. At the present time it necessitates considerable travel when one has to go from Montpelier to either the north or south end of the State. Mr. Ross stated that this was a goal to aim at rather than something to be put into effect immediately.

He believed that each district man should be supplied with a light truck upon which a portable fire pump, with 1500 feet of hose could be carried. These fire pumps would not only be useful in fighting forest fires, but could be used to advantage in fighting fires that destroy many farm buildings annually.



The annual forest fire loss could be materially lessened if the towns could be supplied with several caches of fire tools such as the town of Richmond, N. H. has. This might be done on a fifty-fifty basis.

(Extract from the "Green Mountain State Forest News," Montpelier, Vt., Vol. V, No. 3, December, 1929.)

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PRUNING INFECTED PINE TREES TO SAVE THEM FROM BLISTER RUST.

Several notes have been received from Mr. D. S. Curtis of Maine, and others from Mr. W. J. Endersbee of Massachusetts and Mr. T. J. King of New Hampshire, in the past 4 years concerning the pruning of white pine for the blister rust. The pruning was done on young trees. This Office would like to have brought to its attention, information from other agents who know of cases where pine owners have pruned their white pines because of blister rust and have thereby saved them. If the information can be put up with figures, dates, costs, etc., it will be much better and can be used in the Blister Rust News.

For the benefit of those agents, particularly the new ones, who have not seen the notes on pruning for blister rust, the following citations of these articles in the Blister Rust News are being given:

- Curtis, D. S. - Volume 10, 1926, pages 14 (2nd paragraph), and 34.
- " " " - Volume 11, 1927, pages 266 and 313.
- Endersbee, W. J. - Volume 9, 1925, No. 12, December, page 16.
- King, T. J. - Volume 13, 1929, page 82.

The matter of pruning infected pine might be tied up with the silvicultural practice of pruning, which for young white pine is now recognized as having value. There is an especially good bulletin on "Pruning for Profit as Applied to Eastern White Pine" by Cline and Fletcher. This appeared March 30, 1928, as a joint study by the Harvard Forest and the Massachusetts Forestry Association. The bulletin can probably be obtained from the Massachusetts Forestry Association for 50 cents.

Information Wanted

Dr. Martin would like information on any examples of tree surgery work performed on infected ornamental pines. If the agents know of any such work by owners or tree experts please write Dr. Martin about them.

R. G. Pierce.



FOREST PLANTING IN THE LAKE STATES , \*  
(WITH PARTICULAR REFERENCE TO WHITE PINE.)

By Joseph Kittredge, Jr., Silviculturist,  
Lake States Forest Experiment Station.

Importance of Forest Planting in the Lake States

It is estimated that there is in Minnesota, Wisconsin, and Michigan, a total area of about 20,000,000 acres of land better suited to the growing of forests than to any other purpose and which because of repeated logging, burning, or both, now bears no valuable forest growth. Most of it must be planted before forests will grow upon it. The enormous size of this denuded area, about one-third of the total forest land of the region, is the strongest evidence of the necessity for reforestation.

What reforestation has as yet been done represents only a start in the right direction. Up to and including 1926, only 0.33 per cent of the area had been planted. Even at the rate of 15,000 acres a year, the area planted in 1926, more than 1,300 years would be required to reforest the 20,000,000 acres. No region can afford to have so large an area of land lying idle for centuries. But to remedy this situation a large and continued expansion of forest planting by all agencies in each of the States is essential. \*\*\*

Kinds of Trees Planted

If the total area planted in the northern part of the Lake States be subdivided on the basis of the proportion of different kinds of trees used, it appears that 60 per cent has been planted to Norway pine, 25 per cent to northern white pine, 7 per cent to jack pine, 5 per cent to Scotch pine, 1 per cent each to Norway and white spruce, and 1 per cent to all other kinds. \*\*\*.

Survival of Different Kinds of Trees

The average survival for 145 Norway pine plantations was 56 per cent, for 123 northern white pine plantations, 57 per cent; and for 67 jack pine plantations, 56 per cent. \*\*\*.

Direct Seeding

There are examples, however, in this and adjacent regions of successful reforestation by sowing the seed directly on the planting site. At the Petawawa Forest Experiment Station in Ontario northern white pine seed was sowed in spots under three 40-year-old stands having, respectively, 1,715; 1,278; and 600 aspen, paper birch, and other trees to the acre. After two years there were, respectively, 320; 1,600; and 8,075 living white pine seedlings. \*\*\*.

Norway, northern white, and Scotch pine were sowed in seed spots by the Cloquet station with moderate success. Best results were obtained in fall sowings under a stand of jack pine where the shade was found to be an advantage. \*\*\*.

\* Extracts from U. S. Department of Agriculture Bulletin #1497, June, 1929.



## Utilization of the Wood Product

One of the prime considerations influencing selection of species is the use for which the wood crop is desired. In the Lake States the largest present demands for timber are for pulpwood and for planing-mill products. Northern white and Norway pine have been and promise to continue to be thoroughly acceptable species for a multitude of uses in the form of lumber and planing-mill products. The two pines are used interchangeably for many purposes, including sashes, dimension stock, house construction, and doors, boxes, car construction, woodenware, and agricultural implements. A study of the wood-using industries in Minnesota in 1913 indicated 20 uses for Norway pine and 92 for northern white pine within the State. Norway pine, by reason of its greater strength and hardness, is slightly more suitable for construction purposes and for piling and ties. On the other hand, the soft and workable wood of white pine is particularly adapted to many specialized uses. Until recently these two species constituted one-third of the total consumption of wood products in the Lake States, and, although the demand for them is being absorbed by the western pines which are shipped east at high freight costs, it is safe to predict that northern white and Norway pine grown locally in the Lake States will always have a ready market. \* \* \*.

## Rate of Growth

On the basis of their rates of growth on sites to which they are suited, the species may be arranged as follows, beginning with those that grow fastest: Eastern cottonwood, jack pine, European larch, Norway pine, northern white pine, white ash, basswood, red oak, white spruce, sugar maple, and northern white cedar. \*\*\*.

## Value of Product

The money values of different species of timber differ widely. In 1925 in the Lake States, northern white and Norway pine were sold standing at \$10 and \$15 a thousand board feet. \*\*\*.

## Susceptibility to Damage

Norway pine stands out as a particularly desirable species for planting because it appears to be almost immune to insects and diseases. Northern white pine is often attacked by a weevil which kills the leading shoots and retards the growth in young trees. It is also subject to attack and destruction by the blister rust; but this need not discourage planting, for if the control measures worked out for this disease are taken promptly the risk of loss is small. \*\*\*.

## Mixed Plantings

Northern white pine occurs naturally in mixture with hardwoods on the heavier soils and undoubtedly produces the highest quality of timber under those conditions. The presence and maintenance of natural hardwoods in a plantation of white or Norway pine or white spruce is desirable as long as the hardwoods do not seriously interfere with the development of the planting conifers. If hardwoods are not present naturally, they may be planted in mixture with the pine or spruce. \*\*\*.

OFFICE COMMENT

PUBLIC LAND COMMISSION REQUESTS AID

B.P.I. Memo. 471

December 21, 1929.

MEMORANDUM TO HEADS OF OFFICES.

Gentlemen:

I (append) herewith a memorandum from the Secretary directed to field representatives of the Department of Agriculture, in which their cooperation with the President's Commission on Conservation and Administration of the Public Domain is requested. Please see that this comes into the hands of your field employees.

It is important that every practicable cooperation be given the Commission. I shall be glad if you will ask your people to advise us whenever they are called upon for assistance in order that we may promptly and effectively supplement any information that may be required. It is important that every practicable assistance be rendered the Commission.

Very sincerely,

(Sgd.) Wm. A. Taylor,  
Chief of Bureau.

December 7, 1929.

MEMORANDUM FOR FIELD REPRESENTATIVES OF THE DEPARTMENT OF AGRICULTURE.

I am in receipt of a letter from Honorable James R. Garfield, Chairman of the President's Commission on Conservation and Administration of the Public Domain (commonly known as the Public Land Commission) in which he requests the aid of the Department in the studies of the various phases of the problems being considered by the Commission. It will, of course, be the policy of this Department to extend full cooperation to the Commission, and your assistance in furnishing any information requested by the Chairman or other members of the Commission will be greatly appreciated.

Very truly yours,

(Sgd.) Arthur M. Hyde,  
Secretary.



A M O N G O U R S E L V E S

Mr. A. E. Fivaz returned to Washington December 12, via auto from Warrensburg, New York, where he has been engaged in research work since July. "Al" and his wife spent their Christmas holidays with his parents in Ohio.

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Agent G. S. Doore's headquarters have been changed from Northampton to Boston, Massachusetts.

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Agent Philip E. Barber's headquarters have been changed from Corinth to Saratoga Springs, New York.

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Mr. Paul B. Richmond was appointed agent at Nassau, New York, on January 7.

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Mr. Perry H. Merrill has been appointed collaborator at Montpelier, Vermont, effective January 16. Mr. Merrill was recently appointed Commissioner of Forestry for Vermont.

Mr. W. J. Cullen, New Hampshire Agent located at Laconia, unfortunately broke his left arm at the elbow on his recent visit during the holiday season with his mother in the District of Columbia. Mr. Cullen called at the Office while in Washington.

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Mr. Paul D. Kelleter, administrative assistant to the Federal Farm Board, has been named director of the Wisconsin State Conservation Commission, and is expected to take over his new duties about the middle of January.

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Wedding Bells

Announcement has just been received of the marriage of Miss Vance Johnson of Indianapolis, Indiana, to Mr. James D. Kennedy of Syracuse, New York, on January 11. Mr. Kennedy was for several years engaged in blister rust control work in New York State. On December 31, 1928, he resigned his position as Assistant State Leader in New York to accept a position as professor at Syracuse University. Mrs. Kennedy has been teaching music and art in the Indiana schools.









# THE BLISTER RUST NEWS



February, 1930.

Volume XIV

Number 2

U.S. DEPARTMENT of AGRICULTURE  
BUREAU of PLANT INDUSTRY  
OFFICE of BLISTER RUST CONTROL





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UNITED STATES DEPARTMENT OF AGRICULTURE  
BUREAU OF PLANT INDUSTRY  
WASHINGTON, D. C.

T H E B L I S T E R R U S T N E W S

Issued by the Office of Blister Rust Control  
and Cooperating States.

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GENERAL STATUS OF INITIAL ERADICATION OF RIBES IN MASSACHUSETTS

To the end of the 1929 field season, except for a few odd jobs, initial eradication of Ribes had been practically completed in the white pine areas of Bristol, Essex, Franklin, Hampshire, Norfolk, and Plymouth Counties. In Berkshire County, there still remains a total of about 15,000 acres in 10 towns to be examined for Ribes. In Worcester County there are a few unfinished areas in quite a number of the towns in the northern part of the county and practically no work has been done as yet in the towns of Holden, Lancaster, Leominster, Lunenburg, and Sterling. In Middlesex County, initial work has been completed except in the towns of Ashland, Holliston, Hopkinton, Hudson, Marlboro, Sherborn, Sudbury, and a part of Stow. Quite a large part of this county in the eastern section, however, has been classified as "eliminated" on account of its being largely residential in character - Metropolitan Boston. No work is contemplated in Suffolk County which is entirely a residential and business district, and nothing has been planned for Barnstable, Dukes and Nantucket Counties, because of the sandy nature of the soil in these counties and the relative absence of white pine at the present time.

By the close of the field season of 1930, it is confidently expected that with the possible exception of Worcester County, all the initial work of eradicating Ribes will have been completed in those areas that support a sufficient growth of white pine to justify the expense of control work. There will then remain the task of completing the State-wide eradication of the black currant, and the preparation of a plan to take care of whatever periodic reeradication is deemed essential to guarantee the permanent protection of the white-pine crop of the State.

Feb. 7, 1930.

C. C. Perry, Mass.

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CRANBERRY BOG OWNERS INTERESTED IN FORESTRY AND BLISTER-RUST CONTROL

On January 21st the writer had occasion to inspect the Makepeace Company woodlots in Wareham and Carver, Plymouth Co., Mass. with Chas. Cherry, Dist. Forest Warden, and W. C. Butler, Supt. of the Company. Blister rust was found on two trees and dry conditions prevail in all directions. Ribes have never been found around cranberry bogs, or swamps adjoining cranberry bogs during all the work that has been done on farms in Plymouth County where there are numerous cranberry bogs. The Makepeace Company will furnish a crew in the spring to look over all properties. Wild Ribes may be found around one of the bogs and thus break this precedent. If not it will have to go down as another instance of a long-distance spread, and if it is the latter it will be just one more argument for the eradication of black currants.

The Makepeace Company owns some 3,500 acres of bogs and about 2,500 acres more land adjoining the bogs in the towns of Carver, Plymouth and Wareham. Discussion arose on one particular woodlot as to what should be done with it. The trees are 35 years old and upon using the increment borer it was found that the trees were not putting on any diameter growth. We finally came to the conclusion that the bigger trees should be cut in 1931 (this will be a seed year) and the remainder of the stand should be thinned and the trees left, that were 4 to 7 inches in diameter, be pruned. The whole lot will thus be stirred up and the seeds dropped will have a chance to catch. Mr. Butler was asked if he were particularly interested in pruning to get clear lumber as the lumber would only go for cranberry boxes, (50,000 B.F. is used per year). He at once emphatically asserted that his concern was interested only in clear lumber. He said that with knotty lumber they ran the chances of the knots falling out and then the cranberries would at once, of course, be lost. So in spite of the recent article in the press about certain furniture concerns wanting knotty lumber, here is at last one concern that wants only clear material. Pass that fellow again and take your hat off to him.

This company has to date planted upwards of 200,000 trees including white, red and Jack pine. The latter is doing exceedingly well in this district. I might add that they will not plant Scotch pine. Thus we find that forestry is taking hold here and there with a vengeance.

E. M. Brockway, Mass.

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BIG FORESTS MAY GROW FROM THESE LITTLE TREE PLANTS

Augusta, (Me.), Jan. 23. Trees purchased from the State Nursery at Orono and from private nurseries in the State and planted in Maine in 1929, numbered 1,697,192, according to figures given by Forest Commissioner Neil L. Violette, Wednesday. The figure was 351,577 below that of 1928 and 31,566 above the 1927 total.

Spruce was the most commonly-planted tree in 1929, with 823,721 specimens set out. Other trees were white pine 566,608, red pine 150,950, and other species, including Norway spruce, Colorado spruce, Scotch pine, Austrian pine, white cedar, balsam fir, and miscellaneous, amounted to 155,910.

(Newspaper clipping sent in by Mr. W. O. Frost of Maine, Jan. 27, 1930.)

WHITE-PINE BLISTER-RUST QUARANTINE ENFORCEMENT

The work of the Plant Quarantine and Control Administration with respect to white-pine blister-rust control includes; (1) preventing the interstate movement of possible infected pine trees and currant and gooseberry plants into 5-leafed pine-growing areas which the blister rust has not yet reached; (2) assisting States which have established blister-rust control areas in preventing the reintroduction of Ribes into such areas; and (3) inspecting (in the generally infected States) pine-growing nurseries whose owners desire to raise 5-leafed pines under such sanitary conditions that they may be authorized to ship such pines to lightly-infected States.

As an important phase of the enforcement of the restrictions on the interstate movement of white pine, currant, and gooseberry, transit inspections are made during the fall and spring shipping seasons of express, parcel post, and freight at important distribution centers in various parts of the United States. The points manned during the fiscal year, the number of shipments inspected, and the number of shipments violating the various domestic quarantines which were intercepted are shown in Tables 10 and 11. The number of violations of the white-pine blister-rust quarantine constitute only about one-fourth of the total number of interceptions, violations of the Japanese beetle, European corn borer, and narcissus bulb quarantines, also being numerous. \*\*\*.

(Extract from the "Report of the Chief of the Plant Quarantine and Control Administration" for the fiscal year ending June 30, 1929, p. 36.)

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OBSERVATIONS OF A BLISTER-RUST CONTROL AGENT

One thing in particular which has been very outstanding in blister-rust control work is the fact of how easy it is to secure substantial cooperation from a successful farmer. He welcomes and fully appreciates the assistance that is being given, and takes a vital interest in the protection of his white pine.

As the good business man takes advantage of all opportunities to further his business interests, so does the good farmer, land owner, or lumberman take advantage of whatever assistance may be had from his State and Federal Department of Agriculture. Very seldom are we turned down in our efforts to help the farmer. There are some few farmers who don't appreciate or respond to any outside help. All you have to do is look around and observe the run-down condition of their farms and realize the reason for their lack of interest.

On the whole, the average land owner is glad of any assistance that can be secured. Since the bulk of our cooperators are of this class, we feel that we are materially helping the other fellow as we go about our interviewing.

R. E. Wheeler, Mass.

Note: In my experience farmers as a group are the most pliable and can be induced to cooperate easier and more readily than any other group.

W. J. Endersbee, Mass.



BLACK-CURRENT ERADICATION IN MASSACHUSETTS DURING 1929

Except in a few towns in the southeastern district, no special attention was given to the eradication of black currants as a major project. In all sections, however, the plan was to complete the eradication of this variety of Ribes in all towns in which the regular initial control program was in progress. In three towns; namely, Attleboro (See Blister Rust News, Vol. XIII, No. 10, page 219) North Attleboro, and Medway, black currant work was a major project and all plants were removed by the end of the field season. No other work is contemplated in these towns on account of the absence of white pine.

Black-currant eradication was completed in the following towns during the year:

Acton	Attleboro	Ayer	Bellingham	Boxboro
Brockton	Conway	Cummington	Foxboro	Franklin
Goshen	Harvard	Hingham	Holbrook	Littleton
Medfield	Medway	Millis	Norfolk	No. Attleboro
Plainville	Rockland	Shirley	Sharon	Walpole
Westminster	Wrentham			

In these towns and in the other towns where the regular control program was in progress, 3,541 cultivated black currants were removed. It is of at least passing interest to note that in the town of Westminster, in northern Worcester County, not a single plant of R. nigrum was present in the town. It is possible that some specimens were present in the town in 1917 and destroyed that year in connection with the Ribes census project that was in progress at that time.

In conducting black currant eradication work, the practice has been to encourage owners to remove the plants unaided. The records indicate that in accordance with this policy, 52% of the plantings destroyed were actually disposed of by the owners themselves. These plantings contained 45% of the total number of bushes eliminated.

C. C. Perry, Mass.

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BLISTER-RUST CONDITIONS IN UNCONTROLLED AREAS  
IN SOMERSET COUNTY, MAINE.

In the latter part of November, Mr. W. O. Frost and myself took a short trip into the northeastern part of Somerset County. No blister-rust control has been carried on there. Blister rust was everywhere and so were Ribes. It rained heavily, therefore there was no chance for gathering infection data. The conditions, however, showed conclusively that pine reproduction was fast being wiped out, and that there could be no pine for the future in the vicinity of Ribes.

John MacG. White, Maine.

### A GOOD WOODLOT IS AN ASSET OF ANY FARM

Not many farmers consider their woodlot as much of an asset, but they should stop and consider that it is an asset, just as good as money in the bank, because each year it pays more interest per dollar on the investment than the same amount would in the bank. How many when they take their farm inventory of stock, machinery, etc., consider their woodlot? Not many I am sure, but it should be considered just as much as the rest of their holdings.

Each year something is realized from the woodlot in the way of fuel, fence posts, lumber and other products. If it should happen to contain a large per cent of white pine it is valuable, whether the stand is young or mature. If it is mature, there is ready cash as soon as the logs are delivered to the mill. Perhaps some lumber is needed about the farm buildings, isn't that as good as money too? If the stand should be young it should be given more consideration because of future use for the owners or their children. We all know that a great many young things need care and protection, and even though nature plays a big part, man must help some. For example: Young stock, young fruit trees and other farm products need attention and care; the same also applies to a young stand of white pine.

White pine should be looked after each year to see that its enemy, white-pine blister rust, is not getting a foothold. If left along the rust might wipe out the entire stand, and many dollars would be lost to the future stand. To protect the stand is sometimes a small item compared to the time and care taken to protect other farm products, and again it might not be so easily accomplished. Nevertheless, if every time a land owner or farmer went after his cows, or into his woodlot during the summer, he would pull up and destroy every gooseberry and currant bush he saw, he would be doing more than he realized for the protection of his white-pine stand.

H. W. Holcomb, N. Y.

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### PERSUASIVE FORCE VERSUS DIPLOMACY

In one town the water works commissioners were a little lax regarding actual cooperation, but were always going to help out. Their watershed comprised over 100 acres, including considerable pine, both natural and planted. We found blister rust on the pine and also located plenty of Ribes, but still they kept putting off eradication until tomorrow, or next week, or some such meaningless future time.

Finally when diplomacy failed to get definite results, we told the chairman of the board that if a definite date could not be set to begin eradication we would have to leave the town's property out of our eradication program for the year. That secured results as the next day the inspector had five men at his disposal, and kept them until the job was completed. This coming spring the commissioners are very anxious for an early check of last year's eradication.

R. E. Wheeler, Mass.



MAINE TOWNS MAKE ANNUAL REPORTS ON BLISTER-RUST CONTROL

Mr. W. O. Frost, State Leader, on a visit to Bar Harbor, Maine, t'other day was able to secure the annual report of the municipal officers of that town. This included the following report of the cooperative blister rust control work performed in Bar Harbor.

Report of Pine Blister-Rust Control

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The following is a report of the blister rust control work conducted by the Town of Bar Harbor in 1928:

The work, supervised by Federal agent, Mr. A. J. Lambert, who was paid from Federal funds, began May 22, and ended August 17th, two four-men crews being employed by the town.

One crew began work at Hulls Cove and the other at the brook south of Schooner Head.

Pines of all sizes having blister rust, as well as currant and gooseberry plants, which spread the disease, were very numerous throughout the area worked by the crews. In nearly every case when they could be reached, the owners were interviewed, and the nature of the disease as well as its control, was explained to them. This factor alone is worthy of note as we found the owners very anxious to save their pines.

A total of approximately fifty-five hundred acres were worked, divided as follows:

Worked by Town crews.....	3,500 acres
Worked by Mr. Lambert.....	1,200 acres
(Areas scouted, few Ribes present, crew work not necessary.)	
Eliminated by Lambert (non-pine Ribes land).....	700 acres
Worked by 9 estate owners without town assistance.....	119 acres
Wild currant and gooseberry bushes destroyed,	
3 varieties.....	59,094
Cultivated currant and gooseberry bushes destroyed,	
4 varieties.....	1,243
(many of these were escaped cultivated)	
Total bushes destroyed.....	60,337

The area covered in 1928 proved to be more difficult to work than expected, due to the topography of the area and to the many estates, with their dense shrubbery, fences, etc., which necessitated slower work than is required in the wooded sections. Once this class of land was eradicated, the work progressed much faster. Rainy weather also handicapped the work to some extent.

Undoubtedly, white pine is one of the dominant forest tree species in Bar Harbor. Good reproduction is in evidence throughout the town, and, if given protection from blister rust, will surely increase in importance, both from a scenic and a commercial standpoint.

Bar Harbor Report, continued.

Itemized Expenditures

White Pine Blister

John Trevett, labor.....	\$315.43
Fred Sawyer, labor.....	124.75
Everett Wadleigh, labor.....	193.00
Kenneth McFarland, labor.....	165.00
Stuart Frost, labor.....	212.07
Lester Spencer, labor.....	210.75
Albert Rodick, labor.....	237.25
Fred Richards, labor.....	169.50
Loring Sawyer, labor.....	73.75
Frank Eveleth, labor.....	130.50
Douglas Richardson, labor.....	56.00
Harold Keezer, labor.....	37.50
Rudolph Richardson, labor.....	25.00
Stuart Martin, labor.....	<u>49.50</u>
Amount expended.....	\$2,000.00
Appropriation.....	<u>2,000.00</u>

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DETROIT NEWS PLAN FOR REFORESTING MICHIGAN'S WASTE LANDS\*

"Briefly the reforestation plan of The Detroit News is as follows:

The State of Michigan owns 1,390,000 acres of denuded, cut-over forest lands. Of this, 373,000 acres are in established, administered State forest reserves. All need reforestation.

It costs from \$5 to \$7.50 to plant an acre of this land to pine trees. Under The News plan any individual or group can plant a forest in units of 40 acres for \$100 a unit. The balance of the planting expense will be borne by the State. Contributors will be under no future expense.

These forest plantations will be set aside as memorials in the names of their donors or anyone they care to honor. The Detroit News will erect a large metal sign on each plantation carrying the number of acres planted, the donor's name and address, and the name of the individual, organization or institution commemorated.

Donors will be informed of the exact location of each plantation as soon as the State makes its selection of tracts to be planted.

Contributions from Upper Peninsula residents will be used for planting pine trees in the State forest reserves in Luce and Mackinac Counties; those from the Lower Peninsula in the 10 State forests below the Straits, or in other forest reserves as established."

\* Booklet by Detroit News entitled "Forests of the Future."



This plan has appealed very highly to prominent foresters throughout the nation, as well as to other leading conservationists. A copy of the President's commendatory letter follows:

The White House,  
Washington.

September 21, 1929.

Mr. William E. Scripps,  
President, Detroit News,  
Detroit, Michigan.

My dear Mr. Scripps:

The far-sighted plan of the Detroit News to encourage the reforestation of the cutover lands of Michigan deserves the widest support. It means more than the recovery of a lost economic resource, for it will also restore homes to a desolated region and beauty to a naturally beautiful landscape. I wish you and the people of Michigan all success in this inspiring undertaking.

Yours faithfully,

Herbert Hoover.

Our State Leader, Mr. Stouffer, sees in this reforesting plan an opportunity for service by our Office. He has already gotten in touch with Mr. Schaaf, the State Forester, concerning a Ribes survey of the plantations which are to be made this year under the Detroit News Plan. Mr. Schaaf stated that up to January 31, \$22,500 has been subscribed to the News Plan, and it is believed that this is sufficient to plant about 9,000 acres. A plot of the plantings will be furnished Mr. Stouffer as soon as the plantings are completed, which will probably be about June 15.

R. G. P.

WINTER WORK ON BLACK-CURRENT PROJECT IN MASSACHUSETTS

The City of Taunton has just been scouted to locate European black currants; 8,434 house properties were examined, and 62 owners were found to have 417 bushes. This is interesting inasmuch as Mr. Hodgkins informs the writer that in 1917 the City of Taunton was covered and all black currants were destroyed at that time.

The town of Dighton is being covered at the present writing. The absence of pine in this town is deplorable and is in deep contrast with some of the towns in Plymouth County. The people in this town realize, however, that pine is an asset to any town and are planting every year. The Bristol County Agricultural Agent, M. Warren Ide, has funds available from the County Extension Service and the Bristol County Agricultural School whereby trees are given free to individuals who will plant them upon their lands. White pine may yet be an important forest crop in this community - who knows? They are told about blister rust before planting.

E. M. Brockway, Mass.

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NEW ESSEX COUNTY, N. Y., FOREST PLANTATION PROTECTED  
FROM BLISTER RUST BUT DAMAGED BY WHITE GRUBS.

In the June, 1929, issue of the Blister Rust News a comment was made in regard to Essex County purchasing a tract of land for a county forest and the question was raised as to whether or not it had been protected from blister rust. This tract contains 516½ acres, on which were planted during the past season 285,000 white pine; 25,000 Norway spruce, both 4-year transplants; 1,000 red pine, 3-year; and 3,500 other species. The balance of the tract has a very fine stand of natural white pine, from seedlings to trees 40 years old.

A macadam road parallels a considerable part of this plantation, which made it readily accessible to those who were interested in reforestation problems. Of the hundreds who inspected this plantation in June and the early part of July, it was pronounced by all to be one of the best plantings of its size in the State. It was hard to find a missing tree. Around the 15th of July a discoloration of the needles was noted. An inspection revealed the trouble to be due to the work of the White Grub. Later checks showed that around 30 per cent of the entire plantation was destroyed by this insect.

The area was protected from Blister Rust during the last half of July, full-crew method being applied, at a cost of \$252.00 to the County, \$132.72 to the State, a total of \$384.72. 10,637 Ribes were removed.

Ben H. Nichols, N.Y.

Edit - While no rust has probably entered the plantation, since eradication was carried on in July, it would seem to offer an opportunity for calling attention to passers-by that the plantation had been protected from the blister rust. Since there has been a heavy loss from white grubs it would seem very desirable to put up a sign along the highway showing that the loss did not occur from the blister rust.



BLISTER RUST TAKES A GREAT TOLL FROM YOUNG TREES

There are thousands of white pine lots where damage of such magnitude can be noted that the importance of protection work is self evident. These lots are for the most part young stands from seedlings to twenty years of age of both natural reproduction and planted stock. It is on such lots that a very high percentage of the damage by blister rust is taking place. The rapidity with which the disease works on the young stands frequently leaves no indication of its seriousness, and many times necessitates close inspection before the real seriousness can be detected. This damage is usually much more extensive on stands of natural second growth than on the planted areas. The explanations are as follows:

First, when a plantation is set out it is at some cost to the owner. He, therefore, considers it an asset. His interest in making the planting is usually followed by enough interest in his investment to inspect it occasionally. If on these visits damage of any nature is noted, desire for a control remedy will surely follow. Thus the trouble and cause of it are brought to the attention of the Department.

Second, it often happens that the site selected for a plantation may be free of Ribes (currants or gooseberries) or steps are taken to have these plants eradicated before the trees are planted. Thus protection from blister rust has been afforded.

With natural second growth the problem is different. Many acres of white pine are prolifically seeded by nature. These areas, a few years later, have the foundation of an excellent stand of timber. This reproduction, unless blister-rust control work has been applied to the parent stand, is very likely, under our forest conditions, to spring up surrounded by currants and gooseberries. The owner of the property may or may not know either the Ribes or pine situation. Should he be aware of the fact, the parent trees' stately and apparently healthy form, stands forth as an argument that nature cared for them and should do likewise for its progeny.

One forgets that in recent years many forest insect and disease enemies have been introduced into the United States. Thus millions of white pine trees which spring up unaided by anything but nature are left to struggle along as nature dictates and blister rust creeps in. The reproduction, or a greater part of it, soon disappears.

Young trees from seedlings to five years of age, when once infected by blister rust, soon die. Any indication that a tree was growing in that particular spot quickly vanishes. Very rare are the occasions when an entire stand becomes infected or is wiped out at the same time. A certain per cent of the trees will escape noticeable infection for several years. Thus the real seriousness of the condition is overlooked until the deadly work of the disease looms on the remnants of the stand that may then be from fifteen to twenty years of age.

Studies of this important phase of our blister-rust condition, made during the late fall of 1928, indicate further that the loss in reproduction in the white pine growing sections of the State is enormous. These studies were made in six counties, covering thirteen towns and were chosen from areas from which the Ribes had been eradicated prior to that year. The study plots varied in size from one-half to one acre, and were representative of the pine stands found in the district. As a contrast against these, an equal number of plots were established in areas of similar topography but where no eradication work had been done. The following table is a summary of the damage study plots:

	Not Eradicated	Eradicated
Total number of trees on plots.....	10,475	9,997
Number of trees infected.....	2,850	652
Per cent of trees infected.....	27.3	6.5

Still more striking are the following figures which show that the number of infections on the uneradicated plots is constantly increasing, while it is decreasing on the eradicated plots. The decrease in number of infections in 1926 is no doubt due to the fact that many of the infections had not made sufficient growth to be seen.

Year of Infection	'09	'10	'11	'12	'13	'14	'15	'16	'17	'18	'19
Number of new infections on uneradicated plots.....	13	0	33	0	1	6	18	17	30	18	360
Number of new infec- tions on eradicated plots.....	32	7	5	4	5	8	17	6	58	33	253

Year of Infection	'20	'21	'22	'23	'24	'25	'26	Total
Number of new infections on uneradicated plots.....	60	178	188	463	476	1010	463	3,339
Number of new infections on eradicated plots.....	14	83	27	56	40	42	13	703

Nearly one-third of the trees in the uneradicated plots have infections and such infection is still rapidly increasing, while on the eradicated areas only one-fifteenth of the trees are infected and the number of infections is steadily decreasing.

(Extract from the Nineteenth Annual Report of the Conservation Department of the State of New York, for the year 1929)



SUMMARY OF 1929 BLISTER-RUST CONTROL PROGRAM IN MASSACHUSETTS

To the close of the Massachusetts records on December 31, 1929, blister-rust infection on the pine host had been recorded in 285 of the 355 cities and towns in the State. Conditions existent during 1929 were favorable for the production of a heavy crop of aeciospores, but the prevalence of an unusually dry summer resulted in a below normal condition of infection on the leaves of Ribes. This same absence of rain contributed not a little to the successful prosecution of the program of Ribes eradication, and resulted in a year of real accomplishment in securing the cooperation of property owners in performing control work.

Through the continued use of window and roadside displays, the publication of news items in the local press, and the distribution of printed circulars, the subject of blister rust and its control was kept before the general public. Intensive interview work, the use of demonstration infection plots, reminder cards, and letters, resulted in gratifying cooperation from 1,756 property owners and four State Departments. During the field season 242,079 acres of land were examined for Ribes, and from this area 824,866 wild Ribes and 31,639 cultivated Ribes were uprooted at an average cost of 11¢ per acre. In addition to this initial eradication of Ribes, a limited amount of reeradication work was performed. This involved the examination of 16,336 acres of land by 53 cooperators, and the eradication of 16,173 wild and 7 cultivated Ribes. In the combined work of the season, local cooperating agencies expended the equivalent of \$12,131.16 in time or for the hire of labor. Control work was continued in the environs of the larger pine-producing nurseries in the State, including the nurseries of the Massachusetts Department of Conservation. The black-currant eradication work was carried on as a major project in three towns and in conjunction with the regular control work in all towns canvassed during 1929.

Tentative plans for 1930, subject to the approval of necessary appropriations, call for the completion of all incomplete initial Ribes eradication projects, more attention to the State-wide eradication of black currants, and provide for reeradication work in the towns of Erving, Orange, and Warwick in Franklin County. In the Nursery Sanitation project, the protection zones already established, will be reinspected to insure their being Ribes-free.

(Extract from the Annual Report of State Leader Perry of Massachusetts for 1929.)

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PAST "CURRANT" EVENTS

One day's work: Located blister rust on pine in two towns. Out scouting with a college professor and two millionaires. Drove a bank president's Lincoln car to his woodlot and scouted over the area.

R. E. Wheeler, Mass.

RHODE ISLAND GOES AFTER BLACK CURRANTS

The four-man field crew which from April 22, to October 26, 1929 scouted for and eradicated some 5,703 European black currants, visited 15,821 properties and traveled 5,979 miles about the State. This extensive scouting resulted in locating and destroying bushes growing in 459 plantations.

The Rhode Island State Department of Agriculture has now completed the eradication of cultivated black currants in over one-half of the State, and contemplates the completion of this project within another year. The eradication of all cultivated black currants in Rhode Island will supplement the control work of suppressing all wild and cultivated currants and gooseberries in pine districts, and should retard the spread of the disease to such districts.

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AS WE VIEWED THE CONFERENCE.

I could not allow this opportunity to pass without some mention of the splendid scenic background for the late conference at Warrensburg, N. Y. I, for one, certainly appreciated the setting. You've got to put a fellow in a pleasant state of mind and a receptive mood when you sit him into a conference and nothing pleases his fancy or invites his attention to a greater degree than a pleasant and delightful environment. Whoever was responsible for the choice of the site of the meeting certainly knew his stuff.

Just add to this picture a spirit of unison and cooperation and nothing can prevent a conference from being a splendid success. And that is just what we had. The friendliness of that group struck me most forcibly, and I came away cognizant of the fact that the Blister Rust organization was a real happy family.

I liked the idea of Agents sitting in as Chairman of the meetings. It tended to give a fellow a sense of responsibility and promoted a closer relationship between the Agents. Psychologically it removed a fear from the minds of the agents to arise and express themselves.

No one can deny but that we Agents have more than blister rust problems to deal with in the field. We must frequently give information on matters of silviculture and forestry in general. This past conference was so arranged that much valuable information along these lines was made available to the agents. The Pack Forest offered an excellent schoolroom for the discussion of these problems and I am sure that all of us felt doubly repaid for the field trip.

I was intensely interested in Al Fivaz' ecological demonstrations. In listening to his papers at previous meetings I must admit that I failed to grasp the various points he brought out, but at his field demonstrations many of these points were clarified for me. I believe that his efforts in preparing these demonstrations and outlining them to us at the conference were well repaid by what we got out of them. It is my sincere hope that he continues with this good work.

T. L. Kane, New Hampshire.



NOVEL CIRCULAR LETTER FROM NEW HAMPSHIRE

29,000,000 CURRANT AND GOOSEBERRY BUSHES

have been destroyed on

2,000,000 acres of white-pine land in New Hampshire.

195 towns and cities have appropriated funds for this work.

This state-wide activity has resulted in effectively controlling the Rust.

In towns where little or no work has been conducted, investigations show that the disease is continually increasing.

Don't Forget!

- (1) Blister Rust is a bark disease - fatal to white-pine growth.
- (2) It came from Europe on white-pine nursery stock.
- (3) It kills old, as well as young pine trees.
- (4) It has been found in practically every white-pine woodlot in the State.
- (5) Destroying currant and gooseberry bushes controls the rust.
- (6) The time to save your pines is before they become infected - not after.
- (7) 17 States - from Maine to California - are fighting Blister Rust.
- (8) Town and State appropriations efficiently provide for control.

New Hampshire Forestry Commission and U. S.

Department of Agriculture Cooperating.

L. C. Swain,  
Blister Rust Control Agt.

Exeter, N. H.

### A BOOMERANG RETURNS

The question sometimes occurs to me, "How far are we safe in telling the layman the seriousness of blister rust?" We dare not prophesy too much for if the thing we say will happen does not, then the reaction serves as a boomerang and does much more harm than if we had said nothing.

An article which appeared in the Atlantic Monthly not so long ago, voicing the layman's point of view on this matter and a recent experience of my own, convince me that we should use a good deal of judgment in telling what is going to happen to white pine if Ribes are growing in close proximity to them.

In June, I visited a beautiful estate overlooking the Hudson River. The grounds were extensive and immaculately kept. A great many species of trees were growing there - yews, Japanese cypress, great old copper beeches, Austrian pine towering far above Japanese maples and banks of rhododendron, and Norway spruce that made the eye fairly water to see the tops. Here and there in groups were stately white pine, some straight as a ship's mast, others twisted and disfigured but still adding dignity and beauty to the landscape.

My object in going to this estate was to remove about a dozen mammoth black currants. Of all blacks I have ever seen I think these were the largest. They had been tended by a friendly hand through all the years and had waxed strong and healthy.

The owner was not present when I entered the grounds so I spent a little time looking around, at the suggestion of the superintendent. After viewing the profusion of shrubbery, beautiful gardens and such lovely trees I could hardly wait until I met the owner to tell her of my mission. Her white pine were growing so close that their very shadows shaded and protected the bushes that "incubated" destruction.

The Pierce Arrow rounded the corner on the final approach to the mansion. The owner, a middle-aged lady, stepped from the car and I immediately explained my mission to her. As I finished there was a brief silence. "Now listen to me," she said, "you are telling me nothing new. Ten years or so ago some of you Conservation men came here. The minute they got their eyes on those currant and gooseberries they told me they should be taken out immediately or else all the white pine would be dead in a few years." But the bushes were left and I could not dispute the fact that the pine was still living and doing well. A large commercial tree surgery company pays its annual visit to the estate and no council is held over the currant bushes that lurk in the shadows of the King of the softwoods. Yes, somebody had made a mistake, and the boomerang had returned. But I mentioned the black currants again and she merely laughed at me. I showed her the State law and tried to explain but she was more determined than ever to leave them. She only said her attorney was a State senator who would look after her interests. I would have said more but she was in a great hurry. I promised another visit next week. I returned fully expecting a good



argument but to my surprise she had left word to have them removed.

H. G. Strait, N. Y.

Comment By State Leader

In connection with the above article I would like to make the following comment:

What Strait has to say in connection with white-pine blister rust not being a serious factor in the growing of white pine as an ornamental tree, particularly on large estates, is absolutely true. There is, however, as I look at the situation, a reason for this, which is explained as follows: Most of the estate owners have a caretaker. It is customary, in the majority of the estates that I am familiar with, to have this caretaker pay considerable attention to the care of the trees, both coniferous and deciduous and as soon as a dead branch appears it is removed. There is no doubt in my mind that wherever blister rust flags appear on these ornamental trees, probably the branch, or at least the affected part, is removed. Thus the spread of the disease is delayed or controlled.

H. L. McIntyre, N. Y.

TREE SURGERY AND BLISTER RUST

A few days ago I was privileged to assist Mr. L. W. Hodgkins with a study which he has been making at the Pembroke Arms infection area in Pembroke, Massachusetts. The study, in a word, is an attempt to save a few badly diseased ornamental white pines by the practice of careful tree surgery methods, having in mind the fact that any pruning to be effective, must begin at a point sufficiently distant from the center of any canker to "get" the outstretching filaments of the rust fungus. In this check up, we examined some 70 trees that had been treated by Mr. Hodgkins with patient and skillful hands. In every case we found the cuts clean and healthy and no blister rust was evident. In one case where the top of the tree was cut off and another in which the tip of a large limb had been cut off, new growth is being provided by side branches and with surprising rapidity. In one instance a side branch showed a growth of 14 inches during 1929 and despite the fact the vitality of the tree itself has been greatly reduced by the activity of numerous rust cankers.

The results of Mr. Hodgkins' studies from what I have seen of the work bids fair to be of particular interest in the saving of valuable ornamental pines that may seem otherwise hopelessly ruined by the disease. It shows what can be done with a certain amount of time, patience, and intelligent effort.

E. M. Brockway, Massachusetts.

### EXAMPLES OF PRUNING INFECTED WHITE PINE

I have a little information regarding the pruning of white pines infected with the blister rust.

#### Shedd Plantation of Bartlett, N. H.

This plantation was made in 1911 and the Ribes were not eradicated until 1924. Clumps of skunk currants spread considerable infection throughout the plantation. An acre plot in one place showed 40% infection and a fifty foot square in that acre had 75% infection, but probably the average for the thirty acres planted was about 10%.

In 1925, Dr. Shedd hired a man to prune the infected trees and cut down those having trunk cankers. Pruning all the limbs to a height of five or six feet was taking too much time so he just had the infected branches removed. About 15 acres were covered in seven man days. The trees were planted 6 x 6. A great many trees were saved in this way but on some where the branch was removed and the canker was near the trunk, the infection was not halted. An earlier pruning would have saved a larger percentage of the trees. As it is now, there are enough trees to more than make a full stand. There will be some openings in the vicinity of the currant beds. The cost was \$33.00.

#### A. P. Rogers' Woodlot, Freedom, N. H.

This was a natural stand of young pine from two to ten inches in diameter which seeded in from clumps of large trees in a pasture. The area pruned covered perhaps ten acres. The Ribes were eradicated on this area in 1923. The important data on this pruning work is as follows:

16 man days at \$4.00 - \$64.00. The cost applies only to the 1926 work.  
2729 trees were pruned in 1926.

569 trees were cut down, having trunk cankers. These trees were from two to ten inches diameter breast height.

1979 cankers were cut from the pruned trees, sometimes several from one tree.

240 more trees cut down in 1929 having trunk cankers and there are still a few more trees with trunk cankers.

Although many of the trees were saved by pruning it is rather discouraging to Mr. Rogers because there are trees with trunk infections appearing from time to time which he thought were healthy trees. No doubt these are latent infections which have developed slowly. There are no new infections however, and he has planted the entire pasture to white and red pines. The planted trees are growing nicely. The owner has probably planted close to 100,000 trees, all but about 5000 being white pines. In 1929, the area was reworked, only about six gooseberry bushes being found in the area where the infection was the heaviest before.

S. H. Boomer, N. H.



PRUNING INFECTED PINE TREES IN NEW HAMPSHIRE

Several people in my district have pruned infected pine limbs but in most cases it has been done on ornamental white pine. In only one instance do I recall where pruning of this sort was done on a large scale. This work was carried on this fall on the property of A. L. Hamilton at Sugar Hill, New Hampshire.

Initial eradication and reeradication work had been done on Mr. Hamilton's property but the gentleman was insistent that every blister rust infection on pine should also be eliminated from his lot so he engaged the crew to do this work after the eradication season had ended.

Five men were engaged in carrying on the work. They pruned every infected limb after inspecting every tree on the sixty acres. I did not keep data on the amount of infected limbs that were cut off but I do know that the infection on this property was about thirty-five percent. They also cut down sixty-four trees that had trunk infection and snaked them in to the road. They collected and burned all the brush, besides.

The total cost for this work amounted to \$211.00. This comprised the wages for the crew and the cost of an experienced wood chopper.

Mr. Hamilton has not sold the pine logs as he is having some thinning done this winter and will sell them with the other trees that are cut down on the thinning. There is a saw mill about a mile from his property where he can find a market for the logs.

T. L. Kane, N. H.

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PROPERTY OWNERS INTERESTED IN DAMAGE TO THEIR TREES  
FROM RECENT SLEET STORM

One thing which has served lately to focus the attention of the inhabitants of Washington County, New York, on tree injury was the damage caused by the recent sleet storm. Ice an inch or more thick hung on the branches of trees for several days. No damage seems to have been done to the evergreen trees although I have had one report where the ice broke the tops off of small pines. The hardwood trees, however, were not so fortunate. Not only twigs of these but also branches, were either split or entirely broken off. The elms especially seem to have suffered most. We can only wish that pine owners would become as interested in the condition of their white pines in regard to blister rust as everyone has been in the results of the sleet storm.

R. Paige, New York.

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EXTRACTS FROM ANNUAL REPORT OF A NEW HAMPSHIRE AGENT

George F. Richardson, Jr., of Lebanon, N. H., Blister-Rust Control Agent for the fifth district, in his annual report on control work for the past season, announces work has been carried on in 15 towns and that it has been completed for the first time in Bridgewater and Hill. Town work was started in the following towns for the first time during 1929: Enfield, Alexandria and Orange. Crews during the past season in this district located and destroyed 314,579 currant and gooseberry bushes on areas totaling 15,673 acres as well as scouting and eliminating many thousands of acres where there was found to be insufficient pine to warrant the expenditure of funds.

The following table, taken from the report, summarizes what has been accomplished in the different towns of the district to date:

	Acres Examined	Bushes Destroyed
Alexandria**	1,556	806
Bridgewater	11,438	64,425
Bristol**	8,349	107,436
Canaan**	5,609	330,462
Enfield**	1,928	14,001
Grafton	1,857	115,407
Hanover**	24,850	736,054
Lebanon**	9,297	285,821
Orange**	622	18,525
Claremont**	23,779	182,448
Cornish*	1,119	12,804
Croydon**	3,149	41,823
Grantham	3,199	64,235
Goshen	5,592	78,280
Newport**	14,634	358,384
Plainfield**	5,421	93,046
Springfield**	9,163	237,011
Sunapee**	9,132	322,856
Unity	6,307	67,341
Andover	24,600	294,898
Danbury	-----	-----
Hill	15,577	192,580
New London**	15,337	336,663
Wilmot**	<u>2,426</u>	<u>57,610</u>
Totals	204,947	4,012,916

\*\* includes town and private work.

\* private work only.

Figures obtained from the State Forestry Department show that since 1912 one hundred ninety seven towns and cities have made available funds in cooperation with the State for blister rust control and that 27,936,300 currant and gooseberry bushes have been destroyed on areas totaling 2,209,756 acres. That 67 towns in the State have completed the examination of their pine areas for the first time.



### JUST FOR SPITE

Blister rust has been the means of upsetting at least one case of "just for spite" which involved planting of a white pine "spite fence" on a certain property in the town of Raynham, Massachusetts. The situation first came to our attention when our regular control program was in progress in that town during the summer of 1926. While soliciting the cooperation of a Mrs. A., my attention was called to the fact that the owner of the adjoining property, Mr. B., had planted a hedge row of white pine trees on the property line, and in such a way that they would eventually shut off the view down the road from the house of Mrs. A. This owner had been interviewed previously regarding blister rust control, but no cultivated Ribes had been found on the house lot property. Between the time of the interview with Mr. B. and the interview with Mrs. A. referred to above, Mr. B. had planted one red currant and four gooseberry bushes under the pine hedge row. What the psychology of the situation was is beyond me, except that it indicated an inane desire on the part of Mr. B. to be contrary. At any rate Mr. B. was again interviewed and urged to remove the recently planted Ribes. He expressed his unwillingness and disgust in no uncertain terms, and it became necessary to use the law and forcefully remove the bushes over his protest.

About three and a half years now elapse in our incident. On January 2, 1930 the agent, in company with Mr. L. W. Hodgkins had occasion to be in Raynham. On passing the property referred to, a blister-rust flag was noted on one of the pines in the hedge row. Further examination, moreover, revealed that the trees were literally full of infection; that is, branch cankers. Unless the owner of the pines changes his "hard boiled attitude, his "spite fence" will fail of its purpose, because blister rust will take its toll in short order.

E. M. Brockway, Massachusetts.

### MASSACHUSETTS INVENTORY OF FORESTS

#### White Pine Predominates

Potential forest area makes up 62 per cent of the total area of Massachusetts, the State Department of Conservation recently announced on the basis of a town-by-town survey. The classification "potential forest area" includes with present forest area abandoned fields and pastures that are coming up to brush and scattered tree growth. On 80 per cent of the forest area the stands are in general under 35 years of age. Pure northern white pine stands and mixed stands in which northern white pine clearly predominates constitute 22 per cent of the forests in the State, with a relatively good percentage in the upper size classes. Hemlock is found in small patches in nearly all the counties except Plymouth and Barnstable, but spruce is confined to the higher elevations of the Berkshire Hills. The gray birch and red maple type covers 20 per cent of the forest area.

This inventory of Massachusetts forests was begun 14 years ago. Field work has been continued each summer since then by a crew of two or three forestry students working under the direction of a representative of the State forestry organization. In the main the towns were cruised in strips 1 mile apart, run either north-south or east-west so as to cut the topography.

The expense of the survey was about \$1,000 per county.

(Extract from The Forest Worker, November, 1929.)

LOYALTY

Ever since I have been an agent in Massachusetts, Mr. Perry, the State Leader, has followed the practice of sending, in a round-table manner, a copy of his annual report to his agents. The 1929 report has just reached my hands and in the last paragraph I read this, "to the field men alone belongs any credit for accomplishments in blister rust control work in Massachusetts."

It is unusual for me to take issue with our State Leader but I do so in this case. I do not agree with him that the credit for accomplishments belongs to the field men alone. It may be true that the field men have done the control work but if they have accomplished anything worthwhile it is because they have been inspired by their leader. In other words, it is largely because of loyalty on the part of his field men, and I am convinced that the greater the loyalty is the greater the results are.

In the ill-fated days of the Federal Inspector the most loyal foremen were the chaps who were doing the best work and their reward came when the present control program went into effect. They were the men who were selected for the agents' jobs. Later, as a Blister Rust Specialist, I observed that the most loyal agents were the boys who were forging ahead in their groups. Today if you pick out the topnotchers from any of these groups, or from the whole force, you will find that you can write the word "loyal" alongside their names. I believe too that this greater loyalty has been inspired by the Leaders.

W. J. Endersbee, Mass.

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NOTES IN RE NEW BLISTER-RUST NEWS COVER PAGE

Congratulations on the new cover for the Blister Rust News. It is neat, artistic, and very effective.

W. H. Snell, Prof. of Botany,  
Brown University.

Congratulations on the new cover to B. R. News.

E. W. Littlefield, Asst. Forest  
Pathologist, N. Y. Conservation Dept.

It gave me a lot of satisfaction to receive the Blister Rust News with a new cover page. It is certainly neat and appropriate and fills a long-felt want. I suppose we get sick of the same thing after a while and long for something different and this seems to have been the case with the cover page. Now we have something different and it is certainly a decided improvement over the old one.

E. M. Brockway, Agent, Mass.



The News Letter with the new cover came yesterday. In my opinion it is a very satisfactory cover. I believe the thing needed is color to make it more attractive. I would suggest that green paper be used for the cover or green ink be used on white paper. Either of these suggestions might necessitate printing altho' it may be possible to secure green paper that can be used on the mimeograph.

W. J. Endersbee, Agent, Mass.

I like the new dress of the B. R. News.

M. A. Thompson, P. Q. & C. A.

#### CATTLE VERSUS BLISTER-RUST CONTROL

Perhaps the following will enlighten a few in regard to cattle and gooseberries.

I recently called on one of the 1928 cooperators in Skowhegan, Maine. The following is part of the interview:

"Say, if I had waited until the spring of 1930 I would not have had to remove those gooseberry bushes in my pasture. I pastured this one to young cattle last summer (1929) and they ate all the gooseberries. Yes sir, I could not find any small ones but I did find several large bushes that were evidently missed."

This conversation brought two interesting points to my attention: (1) That evidently disinterested owners do believe in eradication, and (2) That small gooseberries and sprouts might be eaten by cattle.

It seems that he contradicted himself in this conversation. Apparently the larger bushes and the most menacing, were not eaten. It would seem that the small bushes were eaten because they were below the grass tops, rather than from choice or taste. Cattle as an ally might be O.K., but from all appearances human endeavor is still needed in removing the gooseberries and currants.

There is near this owner's farm an area bearing 200 pine trees, 78% of these being infected. This area is being given a good deal of publicity. He said; "I see that the Smith area has a lot of rust. I can see it from the road." The reason why this particular lot is attracting attention is that many of the pines are beginning to turn color. Perhaps if a few more areas like this one were near the main highways, securing cooperation would not be like pulling teeth.

John MacG. White, Me.

THE FUTURE OF FOREST PARASITES IN THE UNITED STATES\*

By J. S. Boyce,  
Director, Northeastern Forest Experiment Station.

(Continued from January Issue)

With constantly increasing intercommunication with foreign lands, there will inevitably be an increase in introduced parasites, checked in a considerable measure by quarantines. In Europe the Dutch elm disease (Graphium ulmi), of unknown origin, but probably brought in during the World War, is now destroying the elms and is a constant menace to the elms of this country. Douglas fir canker (Phomopsis pseudotsugae) in Europe is another constant threat. There is not only the danger of introducing new diseases but that of introducing virulent strains of parasites already present. For example in the Pacific Northwest, conifer root rot (Fomes annosus) is found on old stumps or dead trees of Douglas fir (Pseudotsuga taxifolia) and occasionally causes root and butt rot in a mature tree, but in Europe this organism commonly attacks and kills young Douglas firs.

Furthermore, the United States is such a large country, with the forests of the East and the West so well separated, that there is danger of introducing forest parasites from one of these regions to the other. It is quite possible that one of the dwarf mistletoes (Razoumofskya spp.) so severe on western pines might find one of the eastern or southern pines a congenial host. It is the writer's opinion that the gall forming rust (Peridermium sp.) on Scotch pine (Pinus sylvestris) discovered in New York within recent years and known as the Woodgate rust has been introduced from the West. In April, 1928, the writer found Douglas fir needle cast (Rhabdocline pseudotsugae) on planted Douglas fir in eastern Massachusetts. This fungus was either introduced directly from the West or came circuitously by way of Europe. The introduction of the western pine gall rust (Cronartium harknessii) from the Black Hills of South Dakota to the pine plantations in the sand hills of northwestern Nebraska on forest-grown stock was a serious error that should have been avoided. The movement of nursery stock from one part of the United States to another is a dangerous practice.

The system of government in this country in which the police power is vested in the states makes it more difficult to handle campaigns against introduced parasites, since a state is reluctant to spend money or antagonize its own citizens for the protection of a remote state. The European larch canker (Dasyscypha willkommii) which has been discovered in eastern Massachusetts on European larch (Larix europea) and Douglas fir is of no importance to Massachusetts, but is of grave consequence to the Pacific Northwest states.

Although the biggest single step in protecting forests against foreign parasites has been the enactment of Quarantine 37, the fact must be faced that in the final analysis quarantines must be considered as measures of delay rather than measures of exclusion, even though some parasites may be prevented from reaching this country for all time. The agency responsible for enforcing this quarantine should have the strongest support of all those genuinely

\*From Journal of Forestry, February, 1929.



interested in the ultimate future of agriculture in this country. How anyone of unbiased mind can consider the losses caused by chestnut blight, white pine blister rust, gypsy moth, citrus canker, European corn borer, and Japanese beetle together with other introductions and still advocate the unrestricted importation of plants from foreign countries is beyond comprehension. Unfortunately there is reason to believe that plant bootlegging is not an unknown practice.

The respite granted by quarantines should be used to obtain as intimate a knowledge as possible not only of dangerous foreign parasites but of parasites native to this country. The fights in the past against introduced parasites have been badly hampered, not only by lack of knowledge of the virulent introduction, but of native species closely related to it. Chestnut blight was at first thought by some to be a native fungus suddenly become epidemic through meteorological conditions unfavorable to the host, and later this idea was strengthened by the presence of a closely related native fungus (Endothia virginiana) on oaks. Pinon blister rust (Cronartium occidentale) caused some confusion in the West with white pine blister rust, from which it cannot readily be absolutely distinguished. As a defense against further introductions, it will be necessary to station men abroad to study foreign parasites in their native haunts, particularly in those countries most closely united commercially with our own, as is now being done with the Douglas fir canker.

(Continued in next issue)

#### EXPERIENCES IN WOODLAND TYPE MAPPING

On a recent trip doing woodland type mapping with Agent Woodward in Warren County, New York, we found something quite uncommon for this time of year - a real mud puddle which of course our car dropped into.

The asking of the old question "What are you doing in these parts?" as we all know, is still being done. Just a while ago, while standing with a U.S.G.S. sheet mounted on a board trying to get on a certain territory, an old gentleman walked up to me and popped the question. I attempted to explain to the best of my ability. When among some other remarks I told him we were trying to get the different types of timber on the map by certain colors while the fields were left open, etc., he remarked, "How are you going to change the kinds or types of timber by putting them on a map?" Some one tell us if they will.

Another feature of this work is that when least expected we convince some property owner that he should protect his white pine from blister rust. When this happens while mapping and the snow blowing over the hill at a rather fast rate of speed, as well as being "darned" cold, it helps to spur a fellow over another mountain.

Some of these experiences are not as pleasant as they might be but we believe the work is still progressing. Then again, I like the good old summer time when roads are in better condition and they check up with their appearance on the U.S.G.S. sheets better as "Agent Strait" says.

N. H. Harpp, N. Y.

FOREST PLANTING IN THE LAKE STATES,\*  
(WITH PARTICULAR REFERENCE TO WHITE PINE.)  
By Joseph Kittredge, Jr., Silviculturist,  
Lake States Forest Experiment Station.

(Continued from January Issue)

Season to Plant

Forest planting may be done either in spring or fall. Large areas have been planted in the Lake States in both seasons with excellent results. The degree of success obtained depends more upon the weather of the individual season than it does on any general difference between spring and fall. For example, spring plantations established when soil moisture and the weather following planting are favorable will do better than plantings made in a dry fall, and plantations established during a rainy fall will do better than those set out in a dry spring. \*\*\*.

It is also possible in favorable seasons, to plant trees during the summer. Watson describes the results of an experiment on the Higgins Lake State Forest in Michigan in which the northern white pine was underplanted each week from June to September, inclusive. Counts made later showed that the trees planted in July and August did as well as those planted in June, or better, and that 80 per cent of them were living. \*\*\*.

Size and Age of Trees for Planting

The plantations of Norway and northern white pine in which 2-2 stock was used have been most successful. Three-year transplants (2-1) of the white pine were only a little less successful than the 4-year (2-2), and those of Norway pine were no better than the 2-year or 3-year seedlings. \*\*\*.

Spacing or Number of Plants to the Acre

For Norway, northern white, and jack pine, and white spruce, 5 by 5 to 8 by 8 spacing should be used. Six by six feet or 1,210 trees to the acre can be recommended. At this rate the branches of the trees come together when they are from 10 to 20 years old. The lower branches of the pines begin to die from shading between the ages of 15 and 25 years, when they are not more than 0.75 inch in diameter and average only about 0.5 inch. By the time the trees are 25 years old, the branches will be dead 10 to 15 feet from the ground. At 25 to 30 years, when the trees are 4 to 5 inches in diameter, some thinning will be necessary. \*\*\*.

Insects

Insect damage to forest plantations appeared to be comparatively slight. In the plantations from 5 to 20 years old, only rarely was a tree found which was damaged by insects to the extent that it was likely to die. Jack pine appeared to be the most susceptible, 82 per cent of the plantations examined having been attacked. In many of them almost all of the trees were or had been infested by the jack pine form of the spruce budworm, which attacked the new twigs in the early summer.



Northern white pine is frequently attacked by the white pine weevil. The larvae feed on the terminal shoot under the bark and kill it. One or more of the side branches then become leaders, with the result that growth is retarded and the trunk usually develops a crook or fork. Forty-two per cent of the white pine plantations examined bore evidence of this insect, but rarely were more than 10 per cent of the trees attacked and in no case more than 20 per cent. Graham in a study of the weevil concluded that, to avoid serious damage, northern white pine should be maintained in dense stands. Peirson, in New England, came to the same conclusion and also suggested that northern white pine be grown in mixture with hardwoods such as oak, maple, and ash, the northern white pine to form not more than 20 to 25 per cent of the larger trees in the stand.\*\*\*.

### Fungous Diseases

Fungi are a minor cause of damage in the plantations in the Lake States today. The most dangerous one is undoubtedly the white-pine blister rust, which attacks and kills white pines. No damage from this fungus was observed, however, in the plantations examined. Trees may be protected from it by eradicating all currant and gooseberry bushes within 900 feet of the plantation. White pine should not be planted within a mile of black currants (*R. nigrum* L.). Where currants or gooseberries are so abundant as to make the cost of their eradication prohibitive, species other than northern white pine should be planted. \*\*\*.

### Competition

Shade of the natural vegetation may sometimes be more beneficial to the planted trees than the competition of its roots is detrimental. Although this effect did not appear in the study of plantations in the Lake States, it has been demonstrated by 2-1 stock in experimental northern white pine plantations in Massachusetts where 57 per cent without shade lived, and 85 per cent with some shade. Similar tests with 2-0 stock yielded 33 and 69 per cent respectively. Root competition accounted for 10 per cent of the loss of the unshaded; and of the shaded, 20 per cent. The removal of the grass in July in a northern white pine plantation in New York resulted in heavy losses, attributable directly to the exposure. \*\*\*.

(Continued in next issue.)

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### ABANDONED FARM PLANTED TO WHITE PINE

In the late summer of 1928 after the hay had been cut, Mr. Stiles planted approximately 50 acres to white pine on an abandoned farm in Poland, Maine. I viewed this plantation in June, 1929, and it was surely hard to pick out any green seedlings. There were some, but the greater percentage of the trees looked burned up for fair. On close examination the roots did not seem to be well heeled in, and probable air pockets had apparently not been properly stamped out, due to too much haste in planting. We learned from a near-by farmer that Mr. Stiles was to replant the whole area.

I visited this area the latter part of August, and was amazed to note that many of these seedlings which on my first visit appeared to be dead, were now displaying green needles and were apparently recovering. It did not look like the same area and it will be interesting to visit this plantation this year to observe the results.

G. H. Kimball, Me.

O F F I C E C O M M E N T

MEMORANDUM NO. 592

Duty of the Field Service of all Bureaus and Offices of the Department to Area Coordinators and Federal Business Associations.

The attention of all officers in the field, of bureaus and activities of the Department is directed to their duties and responsibilities to the coordinating service as described in Memorandum No. 571, of June 9, 1927. The desire that the spirit as well as the letter of this memorandum be complied with at all times is reiterated and emphasized.

Membership of the senior representatives of the respective bureaus and activities of the Department in each locality and their principal assistants in their local Federal business associations, which involves no expenditure of funds for travel in excess of ordinary street car fare; acceptance of their election as officers of or appointment as members of committees of a Federal business association; coordination of their work with that of other departments for the benefit of the United States; and compliance with all reasonable requests for assistance and cooperation received from their area coordinators and their Federal business associations are duties that devolve upon all concerned.

Dec. 31, 1929.

R. W. Dunlap,  
Acting Secretary.

Note:- Memorandum No. 571 was printed in full in the June 29, 1927, issue of the Official Record.

H. P. Avery

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EXPRESS BILLS OF LADING AND CHARGE SLIPS

Inasmuch as the General Accounting Office makes a very rigorous check of pertinent information necessary to the accurate audit of Bills of Lading and Charge Slips, care should be exercised by the issuers of Bills of Lading and Charge Slips that the following information is noted thereon:

"Articles, weight, rate and scale number if practicable to obtain, starting point of shipment, destination and value declared, if any." Scale number is a designation used in determining the rate to be applied on express shipments. It may be obtained from the express agent receiving package for shipment.



Value should be declared on the shipment. If it is not declared the carriers liability is limited to \$50.00 and any loss in excess of this would fall on the shipper.

When value in excess of \$50.00 is placed on a shipment, the value so stated should not exceed the actual, replacement, or recoverable (invoice) value.

The value of shipments in all cases should be marked on the bill of lading and on the package or packages. When shipment consists of more than one package, the value should be marked on each package as follows: "Value \$\_\_\_\_\_ on \_\_\_\_\_ packages.

(No.)

H. P. Avery

CLIPPINGS DESIRED SHOWING THE VALUE OF DEPARTMENTAL WORK

The following memorandum has been received from the Chief of the Press Service:

"The Office of Personnel and Business Administration is anxious to get hold of all clippings of articles that call attention to the value of the work done by the Department. If in looking over the clippings that come to you, you find any that will be of interest to that office, will you please send them in to me and I will see that they reach Mr. Rehlander of the Office of Personnel and Business Administration? If in your reading of newspapers, magazines and trade publications, you find any article of this sort that you feel would be of interest in this connection, send them along. We can return such clippings if you prefer to have them back."

It will be appreciated if you will have this called to the attention of members of your staff with the suggestion that clippings applicable to the work of the Department be sent to my office for our information and forwarding to the Office of Personnel and Business Administration.

Wm. A. Taylor,  
Chief of Bureau.

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MOUNTING RIBES SPECIMENS BETWEEN LANTERN SLIDE COVER GLASSES.

Specimens treated or collected as indicated by Mr. Swain in the January News Letter on page 10 make a very effective mount and enable the observer to see both sides of the leaf.

A M O N G O U R S E L V E S

Mr. S. B. Detwiler delivered an illustrated talk on "Water Conservation in the Southwest" before the Optimists' Club of Washington on February 5th. On February 7th he gave a similar address before the Newcomers' Club of Washington on "Some Interesting Citizens of the Southwest".

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Messrs. S. N. Wyckoff and H. N. Putnam of the Spokane Office, arrived in Washington, D. C., February 10th on official business.

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Mr. Roy C. Calhoun received an appointment as Junior Administrative Assistant in the Office of Barberry Eradication in Washington, D. C., on February 1, being transferred from the Western Office of Blister Rust Control at Spokane.

- - - - -

Dr. W. A. McCubbin, who for a number of years has been Chief Plant Pathologist in the Bureau of Plant Industry at Harrisburg, Pennsylvania, has recently accepted a position in the Plant Quarantine and Control Administration at Washington, D. C.

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We were sorry to hear that State Leader A. W. Hurford of Rhode Island, has lately undergone an operation for appendicitis. Our last message from him was to the effect that everything was successful and that he was recuperating in the Homeopathic Hospital in Providence. We all wish Mr. Hurford a speedy recovery.

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The following visitors called at the Washington Office during the past month: Dr. H. T. Gussow, Dominion Botanist, and Dr. A. W. McCallum, Botanist, Ottawa, Canada; Mr. H. L. McIntyre, in charge of Forest Pest Control, Albany, New York; Dr. W. A. McCubbin, formerly Chief Plant Pathologist, Harrisburg, Pennsylvania; and Dr. E. E. Hubert of the University of Idaho at Moscow.

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Mr. L. B. Ritter, State Leader in Minnesota, has written a very readable article entitled "Windbreaks" in the Gopher Countryman for December, 1929, p. 6, 10.

- - - - -

Mr. R. G. Pierce gave a talk before the National Capitol Dahlia and Iris Society on "The Growing of True Lilies in the District of Columbia" on January 31.



Dr. J. F. Martin and Mr. E. C. Filler recently visited Harrisburg, Pennsylvania, to confer with Mr. Wirt, Mr. Clepper, and other State officials, relative to blister rust control activities in Pennsylvania for 1930.

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Agent N. H. Harpp of New York was transferred on January 20th to Plant Quarantine and Control Administration.

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Agent E. D. Clark's headquarters have been changed from Torrington to Cornwall, Connecticut.

- - - - -

Agent R. E. Wheeler's headquarters have been changed from Springfield to West Springfield, Mass.

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#### Bowling Notes.

Endersbee's Pine Blisters, one of the Great Barrington, Massachusetts, teams, tied for first place at the end of the first week's schedule. Later news from Endersbee's Blisters shows the team in fourth place. We trust by the time this News Letter gets out they will have returned to first place again.

P U B L I C A T I O N S
-------------------------

#### Ribes

Amos, J., R. G. Hatton, R. C. Knight, and A. M. Masee. Reversion in Black Currants: Its Causes and Eradication. East Malling (Kent) Research Station Ann. Rpt., 15 (1927), pt. 1, pp. 43-46.

Hahn, G. G. Preliminary Report on a Variety of Red Currant Resistant to Weymouth Pine Rust. Transactions and Proceedings of the Botanical Society of Edinburg, Vol. 30, Pt. 2, 1929, p. 137-146 (illus.).

Ritter, L. B. Cultivated Black Currant and White-Pine Blister Rust. The Smoke Screen, Jan. 1930, St. Paul, Minn.

Slate, G. L. Red Currants and Gooseberries. New York State Agricultural Experiment Station (Geneva) Circular #112, 11 pages.

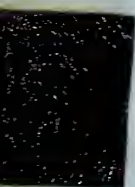
#### Sugar Pine

Show, S. B. Forest Nursery and Planting Practice in the California Pine Region. Sugar pine is mentioned on at least 28 pages of the 74.

U. S. Dept. of Agri. Circ. 92. Jan. 1930.







# THE BLISTER RUST NEWS



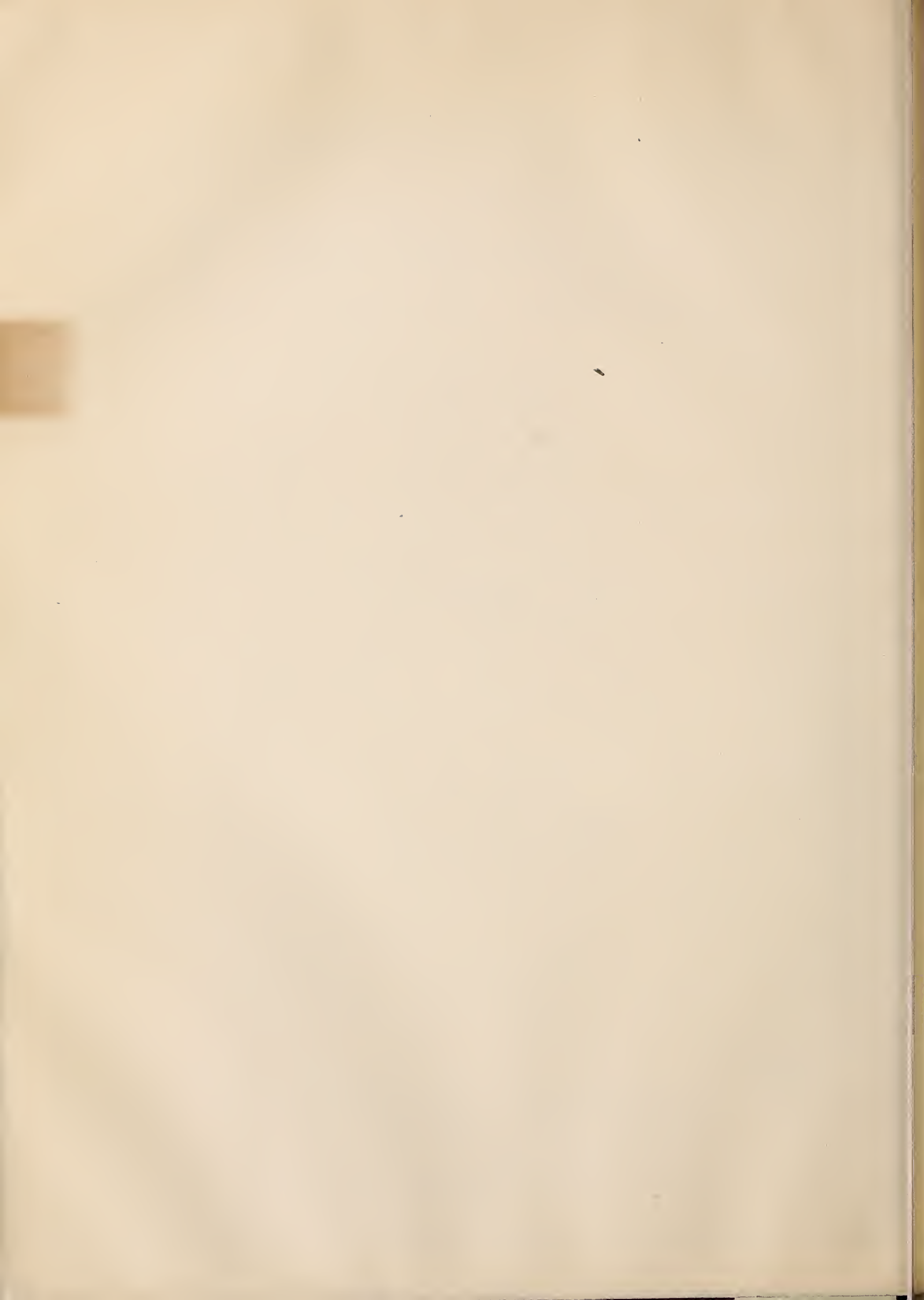
March, 1930.

Volume XIV

Number 3

U.S. DEPARTMENT of AGRICULTURE  
BUREAU of PLANT INDUSTRY  
OFFICE of BLISTER RUST CONTROL





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UNITED STATES DEPARTMENT OF AGRICULTURE  
BUREAU OF PLANT INDUSTRY  
WASHINGTON, D. C.

T H E B L I S T E R R U S T N E W S

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and Cooperating States.

Vol. 14, No. 3

March, 1930

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ENDERSBEE INTERCEPTS PINE ENROUTE TO OHIO

The following note by Mr. Endersbee shows that there is always danger in carrying live pine trees from one State to another:

"With regard to the two pines which I intercepted last summer. I was driving south out of Great Barrington one morning when my attention was attracted to an Ohio car parked at the curbing. A white pine about 30 inches high was tied to each running board so I parked and went over to investigate. There was no one with the car at that time but while I was looking at the pines the owner and his wife came back. One pine was free of rust so far as I could see but the other had a well developed canker of 1925 origin. I told them the story of course, gave them literature and asked them to leave the pines which they willingly did. They said they had spent the past week at a farm in Sheffield (Mass.) where they had admired the young pines which were unknown in their section and they were taking them back with them. They were much suprised to hear of the quarantine and thought that the farmer should have told them, because he had said something about destroying gooseberry bushes. All through the summer months I see out-of-state cars going through with various kinds of trees, often white pines. In cases like this when I can intercept them I do so. I have turned back three or four attempted violations of this type. In one case I failed. It was a New York car with white pines. The car was parked on Main Street and I asked the owner to give them up but he replied that he had dug them in Northern New York and on his way back toward southern New York had come through the Berkshires."

W. J. Endersbee, Mass.

Edit:- This item was sent in by Mr. Endersbee during September, 1929, when the editor was in the field, and it has been only within the past few weeks that the matter was brought to his attention.



HEAVY BLISTER-RUST INFECTION IN THE TOWNSHIP OF LEWIS, N. Y.

While working on the white-pine survey, in the town of Lewis in Essex County, on February 3, I found one of the worst infections of blister rust I ever saw, in a stand of young reproduction.

On account of there being a lot of snow on the trees I did not make a thorough examination of the area but would say it would check up very near 100%. Trunk and branch infections are both very numerous. There are also a good many dead trees which probably have been killed by the rust.

The age of this reproduction, I would say, is between 10 and 20 years old. The infection area is located one mile north of the intersection designated as Cross, (on U.S.G.S. AuSable Quadrangle), thence east to first pinnacle, 1,180 feet above sea level, called locally Cedar Hill, which is north of Frances Lake.

This area was burned some 30 years ago. On account of the snow I did not observe many Ribes, but assume there are plenty of them. I would expect them to be mostly Ribes rotundifolium.

B. H. Nichols, New York.

Edit- We hope to have a more detailed write-up of this infection area and its Ribes population when the snow has gone.

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PINE WOODLANDS PROVE VALUABLE ON TWO MAINE FARMS.

Recently while talking blister-rust control to a pine owner, the value of white pine and other timber was mentioned. This particular owner, in the town of Rome, had merchantable white pine on his farm. During the spring months he intended to remodel his cow shed. He was intending to cut 10,000 feet for this purpose. The sawing cost would amount to 60 dollars. So his total cost would be his own time plus the sawing cost. I asked him what the cost would be if he had to buy this lumber from a dealer. His answer was, "300 to 500 dollars". Evidently by having this timber on his own lot he saved from \$240 to \$440.

\* \* \*

Another owner in the neighboring town of Smithfield also had had experience in this line. He rebuilt his barn; lengthening it twenty feet and widening it four feet. His cost was approximately \$600.00. He furnished his own lumber. He figured at the present cost of sawed lumber it would have cost him \$1,500 if he had been obliged to buy it from a dealer. Therefore his saving was approximately \$900.

John MacG. White, Me.

WHAT I HAVE LEARNED ABOUT AN AGENT'S JOB IN EIGHT YEARS.

After attending the government school in Littleton, N. H., in 1922, I came to Plymouth County, Mass., with headquarters at Plymouth County Extension Service in Brockton. I should have learned my lesson long ere this period and should have realized that one does not get it all in school. Experience is a dear and kind teacher indeed. But I suppose that like a lot of others I thought I had learned everything. We did learn, it is true, the sure-shot fundamentals about blister rust and all about crew work. I often think about the wild Ribes I pulled on the Kay Lot. We learned to recognize the different species of Ribes through the untiring efforts of Mr. Hodgkins. He sure taught me how to recognize skunk currants. (I'll bet he gets a laugh out of this.) All in all I will say that a more thorough school was never conducted. We got the different aspects of scouting, all matters pertaining to forestry, along with some interesting lectures.

I got established in the office all O.K. Miss Annie E. Burke, who had charge of the Garden Club in the Brockton Schools, was the Boys and Girls Club Agent for the County. She at once lined me up to give a lecture at Brockton High School. I'll admit I had stage fright more than once during that lecture and after it was all over I avowed I wished I had taken about 12 more courses in Public Speaking. I at once began to study this "Art" and just when I thought I had it mastered, I gave a lecture at a Grange and right in the middle of my speech one of the members (who had lost his currants) shot so many questions at me that by the time I had them all answered I figured the rest of my speech had been covered so I called it an open meeting from then on.

I had four men as scouts working in Middleborough, Rochester and Lakeville that first year. I at once had to line up work for these men. If I had previously thought I had met people I was deeply mistaken - and don't forget right now that eight years later I am still meeting them. If there is any individual in any walk of life that comes in contact with more types of people than a blister-rust agent I will take off my hat to him without any further argument. I have been called more names and have had to argue more in the last eight years than in all the rest of my life.

I have written several articles for different papers in my district through the the permission and revision of the state leader. A lot of valuable experience has been gained in this line of endeavor. I have found that a good article consists of saying what you have to say in as few words as possible, with convincing lines and a good heading to top it off. This goes over big with the editor of the paper and later with the readers.

Many letters have been dictated and many I myself have typed. Dictating a good letter is indeed an art in itself and differs materially from methods employed a few years ago. Sending a letter to an individual for convincing effects is like writing a convincing article for the press, and let me state that as an artist with the "two-finger exercise" on said typewriter - well, there is still room for improvement.



Keeping good files and good records came in for a lot of consideration and proved in later years to be a big help to the agent himself.

And so in conclusion let me state that in eight years I have gained a lot of valuable experience along all the lines of endeavor above mentioned that you could not get in school. One learns to live and lives to learn. A successful man, we are told, learns something new every day. Success is measured by results. New problems have to be met every day and to be a successful agent one must use discretion and persuasion.

E. M. Brockway, Mass.

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BLISTER RUST IN NOVA SCOTIA\*

The more common native diseases of white pine found elsewhere also occur in Nova Scotia, but there is one introduced disease, the blister rust, that calls for comment. That it had found its way into Nova Scotia has been known for several years, but up to the present had been seen on currant bushes only. Rusted Ribes oxycanthoides (Smooth Gooseberry), R. prostratum (Skunk Currant), and R. nigrum (Black Currant of gardens) were observed everywhere, but it is important to note that two or three young pines (eight or ten feet in height), members of a fine, vigorous, even-aged stand near Chester were found in fatal attack. Blister-rust cankers had girdled their stems near the ground. European experience with this rust has been a very unhappy one. It has wiped out or wrecked plantations in many places, and in several countries, as a result, efforts to grow white pine have been abandoned. (Perley Spaulding, White Pine Blister Rust; A comparison of European with North American conditions. U.S. Dept. of Agriculture, Technical Bul. 87: 1-58. 1929)

This rust is now widely spread throughout the 5-needled pine belts of North America. In some areas it has severely attacked the white pine, especially the younger growth, and some attempts here and there, said to be economically successful, have been made to control it by eradication of the associated currants and gooseberries. Eventually it may be wise to designate what areas in Nova Scotia are to be conserved for the growing of white pine and to eradicate the Ribes (currants and gooseberries) from them. But for the immediate future it would seem to be the better part of wisdom to place the rust under control observation. This could be done easily and inexpensively by establishing various plots suitably located and have them checked up annually. If this is to be done, however, there should be no delay in the undertaking.

\* Extract from "Notes on Forest Diseases in Nova Scotia" by J. H. Faull, Journal of the Arnold Arboretum, Vol. XI, No. 1, 1930.



WOODLAND MAPPING IN ULSTER COUNTY, N. Y.

Starting last fall as soon as the State and Federal conferences were over, work was resumed on woodland-mapping in Ulster County. The weather for the most part was favorable for this type of work, dry and clear. Even the back roads were passable which could not be said every fall. The county is now mapped excepting a small portion in one of the townships in the heart of the Catskills. This would have been done had our Model T been blessed with more power, but like many other things it had seen its best days.

The work was as interesting as it was profitable. One sees much in detail of a region while doing this type of work, and is apt to forget his immediate problem momentarily to see the transition that is being indelibly written upon the face of the landscape throughout the vast portion of this upland territory.

In looking for fields of pine I came across many small family or neighborhood cemeteries tucked away in thickets. A close scrutiny of the fallen and disheveled tombstones, some dating back to 1700, told in a silent language of a race of sturdy pioneers who had struggled valiantly to hew their small farms from the virgin forests of pine and hemlock.

Upon inquiry concerning the names of some of those chiseled in the lichen-covered marble and field stone, I was surprised to find that no one knew them. The family name had vanished from the neighborhood. In many instances where these old family plots are located they are surrounded by fields covered with a tangled mass of weeds, briars and brush and only the even contour of the land circumscribed by the old stone walls tells of the activities of days gone by. Oftentimes on the edges of the old fields, as silent sentinels standing guard, here and there, a white pine will be standing. Beneath and radiating out from it will be thousands of little pines making close by, a solid blanket of green, but becoming more and more scattered further from the parent tree until a quarter of a mile away only here and there one appears.

How prodigious is nature in the reproduction of her species if given a chance, and white pine is one of the outstanding examples in old fields. If the economic laws of man cannot provide working plans for these abandoned fields there is a silent force operating perhaps more surely than most of us are aware in the reclamation of these fields.

As time goes on, the buildings on these abandoned farms are falling to ruins, and here, again as in the field, the white pine once used for shade now scatters its progeny around the buildings and gradually encloses the site of the farmstead. A few years more and only a wanderer might perchance stumble on the moss-covered tombstones, or the encrusted stone walls now dividing the forest, or the old foundations to the buildings, and in his own imagination reconstruct the days of yore.

The trusty servant of white pine, the blister-rust control agent, will pass by some years hence and will note the stand of white pine by the wayside. He will check the location on his map and note a house stood there once. He will make a check for the garden red and the once popular flowering currant or perchance an English Black. He will perform his duty and pass on. The reconstruction has been completed and the farmstead now lost and forgotten, again takes its rightful place in the forest landscape.

H. G. Strait, N. Y.



HODGKINS LOCATES PINE INFECTION IN 24 ADDITIONAL TOWNS IN MASS.

In the annual report relative to blister-rust control work in the State of Massachusetts for the year 1929, the following statement appeared in description of the prevalence of infection on white pine in the Commonwealth:

"The towns in which no infection has been found are either townships in what may be termed Metropolitan Boston, or towns where white pine is practically a nonentity. There is one group of seventeen towns, however, in east central Worcester County, and southwestern Middlesex County where pine is present in scattered groups, but no infection has been found. Little or no intensive scouting or control work has been done in this group of townships, however, and, therefore, the disease will undoubtedly be found there later."

This was written as of December 31, 1929.

Shortly thereafter, the services of Mr. L. W. Hodgkins of the Federal Office were made available for pine-infection scouting in Massachusetts, and he was assigned to the task of determining conditions in the towns in the State where no infection had been reported and particularly in the locations referred to in the above quotation.

In company with Agent Brockway, scouting was first undertaken in a small group of towns "on the Cape" (Barnstable County). It was no time at all before infection was found in two towns in this particular group; namely, Bourne and Sandwich.

From there, Mr. Hodgkins working alone transferred operations to the group of towns referred to in the 1929 report; namely, in Middlesex and Worcester Counties. It should be mentioned, and I know that Mr. Hodgkins will confirm the statement, that in this group of towns white pine is not particularly abundant, but rather it is found distinctly grouped and often scarce as the proverbial "hen's teeth". Nevertheless, as a result of his painstaking and patient work, Mr. Hodgkins finally located the disease on pines in every township in the group referred to. In addition, the disease was also located in a few other isolated towns in southern Worcester County so that today our records show that the rust is or has been present on the pine host in every one of the 61 townships comprising that County.

Due largely to the relative scarcity of white pine in all towns in question, most of the infections found can be recorded as distinctly "spot". In most instances, the record for a town consists of but one location and often but one or two actual pine specimens. Since time was at a premium and the real purpose of the work was merely to determine the presence or absence of the disease; more intensive scouting was not undertaken.

Data relative to the age of the infections (cankers) found indicate that the oldest infection originated apparently in 1914. and the youngest was on 1927 wood. The cankers varied from young infections on small branches to trunk cankers more than a foot in length. In this connection there are recorded on the following page, data relative to the age of the oldest and youngest cankers in the towns canvassed by Mr. Hodgkins in this instance.

Summary of Pine Infection Scouting Data  
(Barnstable, Middlesex, Worcester Counties - Massachusetts)

<u>County</u>	<u>Town</u>	<u>Age of oldest canker</u>	<u>Age of youngest canker</u>
Barnstable	Bourne	1927 (?)	1927 (?)
	Sandwich	1919	1920
Middlesex	Ashland	1924	1924
	Hopkinton	1914	1922
	Hudson	1922	1926
	Lincoln	1922	1926
	Marlboro	1919	1925
	Maynard	1918	1925
Worcester	Berlin	1926	1927
	Boylston	1917	1926
	Clinton	1922	1922
	Lancaster	1922	1922
	Leicester	1925	1925
	Leominster	1923	1926
	Milbury	1926	1926
	Milford	1921	1923
	Millville	1921	1922
	Northboro	1927	1927
	Oxford	1919	1927
	Sarewsbury	1926	1927
	Southboro	1919	1922
	Warren	1924	1925
	Westboro	1922	1925
	Worcester	1922	1927

These new records do not necessarily represent or indicate a recent spread of the rust, but they do most emphatically support the statement which we have used many times in our description of infection conditions in the State, and that is, that "disease can be found on pine in any town in Massachusetts where there is a sufficient stand of white pine." Incidentally the results demonstrate anew the ability of our good Massachusetts co-worker Mr. Hodgkins. We like to claim him as one of our own, although practically all of his services in the cause of blister-rust control have been rendered outside the limits of the Bay State.

Of the remaining 47 towns, in which we have yet to find the rust on pine, 19 are in the residential townships in Middlesex and Suffolk Counties in what may be termed Greater or Metropolitan Boston; 19 are in the pitch-pine type towns of Barnstable County (Cape Cod) and the islands of Martha's Vineyard and Nantucket; and 9 townships are scattered in some of the other counties. At some not too distant date, we are in hopes that we may have the services of Mr. Hodgkins again, to give his attention to



some of these remaining towns. If he meets with such success as in this most recent work it is conceivable that ere long our Massachusetts "infection thermometer" may ultimately reach 355 points (total townships in the State). To date of this writing it registers 308.

March 6, 1930.

C. C. Perry, Mass.

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REERADICATIVE WORK OR REERADICATION?  
(WITH NOTES ON THE USE OF OTHER WORDS BEGINNING WITH RE)

On looking up the word "reeradication" in the dictionary it was found not to be there; and I believe that in using it we have been guilty of using an impossible word. It is for that reason I am suggesting the use of "reeradlicative work" instead of "reeradication". The dictionary definition for eradication is "the act of rooting out, or the condition of being rooted out; complete destruction and removal; extirpation; extermination". Synonyms of "eradicate" are abolish and exterminate. The dictionary gives the word "eradlicative" as "serving or tending to eradicate". Since our destruction of Ribes bushes does not exterminate them but does tend to eradicate them it would seem that the term "eradlicative" is better than the word "eradication". Any second working of an area for the bushes which may have been missed or which have sprouted from a crown, could also properly be termed reeradlicative work. Reeradication is an absurdity, for according to the dictionary, eradication is extermination, and it is impossible to destroy again that which has been destroyed, or exterminate again that which has been exterminated, and yet that is what the term "reeradication" signifies.

\* \* \*

There has been some confusion among the members of the Office concerning the use of the hyphen with words such as "reestablish"; reexamine", etc., which lead me to a study of the word "reeradication." The Style Manual of the Government Printing Office, which is our standard, uses the prefix "re" followed by a hyphen only with 25 words which are here listed:

re-act	re-creative	re-present	re-sign
re-ally	re-dress	re-presentation	re-solve
re-collect	re-form	re-press	re-sound
re-cover	re-formation	re-probate	re-store
re-create	re-lease	re-search	re-strain
re-creation	re-mark	re-serve	re-treat
			re-turn

The underlying principle of the use of the hyphen seems to be that the hyphen is used where there are two meanings of the word as "re-ally", to ally again; "re-sign", to sign again. All other words, except those listed above, with the prefix "re" are to be used as one word, that is without the hyphen.

Note: Are there any comments from the agents regarding the above?

Roy G. Pierce.

ENDERSBEE ACCEPTS POSITION WITH ST. LAWRENCE UNIVERSITY

It is with extreme regret that it becomes my lot to record for the interest of the readers of the NEWS the resignation of W. J. (Bill) Endersbee from the blister-rust control organization.

Graduating from the New York State College of Forestry at Syracuse University, in the class of 1916 with the degree of B.S.F. Mr. Endersbee first became connected with blister-rust control work on July 16, 1919, when he accepted an assignment as foreman of the Federal crew which was organized at that time and operated on the Wolfeboro, New Hampshire, demonstration area. In this connection curiously enough, Mr. Endersbee's last task on blister-rust work was in revamping a report regarding this eradication experiment. In his own words "I leave where I began".

In 1919 and 1920 with that other blister-rust veteran W. O. (Jack) Frost, Mr. Endersbee "ran" the famous 75 mile strip line for the location of blister rust on white pine in northern New Hampshire. Also in conjunction with Mr. Frost, a pine survey of the town of Duxbury, Massachusetts and a survey and damage study on the Sunapee, New Hampshire infection area were made in 1920. In the early work under the old blister-rust quarantine, Mr. Endersbee with others "went thru the mill" in Boston and Springfield, Massachusetts, Rochester, New York, and Chicago, Illinois.

During the period from 1922 to 1925 as a Blister-Rust Specialist, assigned to the States of Maine and New Hampshire, Mr. Endersbee had a real part in working out some of the preliminary problems that faced us at the time of that important change in Federal policy from one of Ribes eradication to Education and Demonstration. As a result of this particular work, it was on July 1, 1925, that he received the assignment as Agent in charge of the important control program in the Berkshire County district in Massachusetts.

In other words, from the very beginning of his association with the blister-rust control organization, Mr. Endersbee has had a vital part in all the different stages thru which the work has successfully passed from the pioneer pine-infection scouting days, thru the inspection of transit quarantine inspection, in the preliminary work in anticipation of the educational campaign, and finally as an active agent in the carrying on of the ultimate educational program itself.

These years during which Mr. Endersbee has devoted his talents and energy to extension and public relations work in blister-rust control, have undoubtedly been responsible for his selection by the Department of Forestry of St. Lawrence University as Extension Forester of the department, for Oswego County, New York, with headquarters in Pulaski. This work which is being done by St. Lawrence University is made possible by the recent gift of \$100,000 to the University by F. L. Carlisle & Co. for the promotion of reforestation work in northern New York. The immediate task is to promote forestry in Oswego and Jefferson Counties, by whatever educational means



are available. The work will be with any individuals or organizations that wish to avail themselves of the services offered. While the work for the present will be confined largely to Oswego County, Mr. Endersbee's services will, nevertheless, be available for advice and suggestions for individuals and organizations interested in the promotion of forestry work in Jefferson County as well. The first project that confronts Mr. Endersbee is to secure a tract of land for Oswego County, so that the provisions of the "Hewitt Bill" to aid counties in reforestation work, may be carried out at once, and the trees planted this year if possible.

It has been our good fortune here in Massachusetts to have had Mr. Endersbee associated with us since 1925 in the furtherance of blister-rust control program in this State. In these years of association together, he has been more than a district Agent; he has been a wise counsellor and advisor, a loyal and most dependable coworker, and an untiring enthusiast for the work which he now brings to a close after almost eleven years of conscientious public service. Altho he will not be with us in person, I know that he will be in spirit. In his leaving, our loss will be a gain for others, and if I may be permitted for the moment to voice the sentiment of the entire personnel of the blister-rust organization, I know that it would be briefly but sincerely: - "We wish you well, 'Bill'".

C. C. Perry, Massachusetts.

#### A NOTE ON THE BUSH CHERRY - A POSSIBLE RIBES SUBSTITUTE

Another new fruit, and one with extremely wide adaptation, is the bush cherry. The bush cherry came to us from Manchuria, but came primarily not as a fruit, but as an ornamental. For many years it stuck strictly to the ornamental role. The little plants, which make a spreading growth and rarely ever get over six or eight feet high, have a beautiful showy bloom in the early spring. The plants are propagated by the simple method of planting seed.

Pretty soon it began to be noted that here and there one of these ornamentals would produce a fruit crop of surprising quality. And when not nipped by spring frost the fruit is always borne with the greatest profusion, the little cherries crowding thick around the stem. Gradually horticulturists have made selections from these seedlings, and now leading nurserymen are offering the bush cherry not only as a striking ornamental when in bloom, but as a plant which bears a heavy fruit crop which is also a thing of beauty.

And as for the fruit quality of the new selections I can give a measure which I think is more or less absolute, though rather unique. It is this: Children of the families living at the Department of Agriculture horticultural station at Bell, Maryland, are always crowding around these bush cherry trees to the neglect of every other sort of fruit of the wide category grown there.

(Extract from "Orchard Miracles" in Country Gentlemen, October, 1929.)

SOME EDUCATIONAL ACTIVITIES OF THE OFFICE

It may be of interest to the field men to learn of some of the educational activities of the Washington Office within the past three months. The following is a summary of some of the blister-rust material that has been sent out, and the persons or institutions to whom sent:

Photographs and enlargements, sometimes colored; maps and charts showing the spread of the blister rust such as given in Mr. Detwiler's Misc. Circular #27; specimens of Ribes leaves showing the disease in different stages; preserved specimens of the rust on pine; sets of lantern slides; various publications on the rust and its control; and tags and posters, etc., used in actual control work.

Henry E. Clepper in Forest Research Branch of the Pennsylvania Dept. of Forests and Waters at Mont Alto, Pennsylvania.

W. G. Hutchinson of Franklin and Marshall College, Lancaster, Pa.

Professor W. N. Hess, Dept. of Biology, Hamilton College, Clinton, N.Y.

Miss Gertrude Phillips, Whittier Hall, Columbia University, New York, N. Y.

Miss Madalene B. Sawyer, Curator of Education, Children's Museum, Jamaica Plain, Massachusetts.

C. S. Herr, Asst. County Agent at Lancaster, New Hampshire.

While these requests for material seem small things, yet it is possible that through them will be secured the interest of not only the one to whom the information was sent, but also the class room, museum, etc.

R.G.P.

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SEVEN PINE LOGS SCAIING 1,750 FEET\*

Jacob C. Pendexter, a well known land-holder of Hiram, Maine, is cutting off some great pine timber this winter. No less an authority than "Win." Hutchins, whose logging operations during the past 15 years have covered portions of York, Oxford and Cumberland counties and adjoining sections of New Hampshire, says it's the best pine he ever logged.

The seven logs in the load shown, with the veteran teamster Henry W. Parker holding the "ribbons", scaled 1,750 feet. And it's no picked lot, but there's plenty more where these came from.

"Jake" expects to put 400,000 feet on the river bank this season.

\*Clipping from the "Portland (Me.) Sunday Telegram."

Edit:- Agent G. H. Kimball, who sent in the above clipping on February 4, wonders whether "Jake" is not one of Agent Curtis' good cooperators. Boy, page Mr. Curtis and pop that question to him.



ESTIMATES OF WHITE-PINE AREA IN MASSACHUSETTS

In the original "Plan Governing the Conduct of Cooperative White-Pine Blister-Rust Control Work in the State of Massachusetts 1922 - 1930" there appeared the following estimate regarding the area of land in the State believed to be producing a crop of white pine.

"No accurate estimate of the total pine area in the State has ever been made, although the State Department of Conservation, through its Division of Forestry is making a State-wide forest-type survey as rapidly as funds will permit, Resort has, therefore, been made to the surveys which have thus far been completed; namely, those of Worcester, Plymouth, Norfolk, Hampshire, and Essex Counties, representing a total of 2,406,743 acres or 46.4% of the total area of the State.

"On the basis of these surveys it appears that 57.2% of the county areas are in forest and that 26.7% of the forest area is producing pine or mixed pine and hardwoods. Applying these figures to the State area it then appears that there are

2,962,637 acres of the State in forest and  
791,024 acres are producing white pine types."

In other words, our original estimate indicated that the area of land in which we were particularly interested in our control program amounted to about 791,000 acres.

Since this original estimate of the pine area in the State was made, the state-wide forest survey as conducted by the Massachusetts Department of conservation has been completed. The results of this survey have recently been described by Mr. H. O. Cook, Mass. Chief Forester, in the May, 1929, issue of the "Journal of Forestry" (Volume XXVII, Number 5). These final tabulations place "the potential forest area of Massachusetts" at "3,226,000 acres or 62% of the area of the State". This potential forest area includes the actual forest land plus the transition land which comprises "abandoned fields and pasture coming up to brush and scattered tree growth" or land that will be forest land within "from 10 to 20 years". Of the actual forest land area, we find that the white-pine type which "includes not only pure pine areas, but mixed stands where pine is clearly predominant" covers an area of 299,807 acres, or 10.6% of the forest. "The mixed pine and hardwoods type" although comprising lands on which there are "more hardwoods than pine" covers an area of 319,313 acres. The combined area of these two types which is comparable to the pine type used in our original estimate, amounts then to but 619,120 acres.

From the above consideration, it would appear that our original estimates were rather high. In this connection, however, it is interesting to note that the tabulation of the Massachusetts blister-rust control field records from 1922 to 1929, inclusive, indicate that during the eight field seasons which have elapsed since our original estimate was made, control work has been performed in the protection of an aggregate of approximately 707,760 acres of white pine, and the task of the initial eradication of Ribes in the State is still incomplete. These figures of pine acreage protected repre-

sent the best optical estimates by the field men engaged in control work substantiated as far as possible by statements of individual pine owners as to the acreage of pine land in their respective holdings.

The apparent discrepancy in the two estimates might well result from the fact that the strip lines used in making the survey were "run" at intervals of one mile. Now, to anyone familiar with the "small lot" character of the white pine areas now left in many locations in Massachusetts, it is apparent that with strips at an interval of one mile it is very probable that many valuable white pine lots would be missed entirely. In many of our towns such a situation would easily account for the difference in the two sets of pine-acreage figures. Other reasons for differences in the figures may be: (1) Changes in forest conditions in the periods intervening between the two estimates in the many localities concerned; (2) Differences in type distinctions which might account for all the difference in the two estimates.

As to the figures for the total forest land area in the State, the percentage of difference between the two estimates is not as great. The original blister-rust control plan places the total forest land in Massachusetts at 2,962,637 acres. The completed survey figures give it as 2,833,893 acres.

C. C. Perry, Mass.

Note: In connection with the above, it may be of interest to our readers to include here an abbreviated tabular summary of the survey figures as reported by Mr. Cook.

Summary of the Forest Area of Massachusetts by Types

<u>Type</u>	<u>Total Area Acres</u>	<u>Per Cent of Forest</u>
White Pine .....	299,807	10.6
Pine and Hardwoods .....	319,313	11.3
Hemlock .....	20,431	0.7
Hemlock and Hardwoods .....	115,578	4.1
Spruce .....	25,348	0.8
Spruce and Hardwoods .....	29,850	1.2
Other Softwoods .....	57,652	2.2
Pitch Pine and Oak .....	233,903	8.2
Oak .....	545,932	19.2
Northern Hardwoods .....	558,303	19.5
Scrub Oak .....	64,811	2.2
Gray Birch and Maple .....	565,965	20.0
Total Area .....	2,833,893	100.0

Edit.



NOTES FROM RHODE ISLAND

Superintendent T. G. Mathewson of Goddard Memorial Park, host at the 1928 Annual Blister Rust Conference, is recovering from a recent illness brought on by over strenuous activity. Mr. Mathewson's enthusiasm in the management of Goddard Park often makes him forget his seventy-four years of youth. Here is one example of the fact that enthusiasm does not always decrease with age.

\* \* \*

There are prospects for another successful year in black-currant eradication work. A new Dodge six-cylinder, one ton truck with canopy body has been purchased by the State to be used by the blister-rust crew during the field season, and the Entomological Department during the winter. An appropriation has been passed by the Legislature allowing the employment of a fourman crew from April 21 to June 30. Commencing July 1, of this year, the State fiscal year will be the same as that of the Federal Government. The appropriation for that fiscal year has not as yet been passed by the State Legislature.

\* \* \*

A radio talk was given by Commissioner Lewis of the Rhode Island Department of Agriculture over Station WJAR, the Outlet Company of Providence, one evening in February. The Commissioner explained the cultivated black-currant eradication activities of the past year in the course of the talk and dwelt on the successful results of the entire work since its start in this State.

\* \* \*

The annual meeting of the Rhode Island Nurserymen's Association was held at the Biltmore Hotel on Wednesday, February 5. Professor Stene of the Rhode Island Department of Agriculture explained to the nurserymen in one of the talks of the day, the provisions necessary in establishing white-pine blister-rust control areas about the nurseries, providing nurserymen wished to ship white pine out of New England. He also recommended nursery sanitation for the protection of white pine shipped intrastate. The State has offered to cooperate with any nurseryman desiring such protection through furnishing the labor in scouting and eradicating Ribes wherever feasible.

\* \* \*

The Rhode Island Department of Agriculture is engaged in its third annual reforestation campaign to encourage landowners to utilize waste land through tree planting. White pine is one of the trees planted most commonly in this State, and the blister-rust control agent is making an effort to acquaint all pine planters as to blister-rust control needed to protect their trees.

MAINE AGENT FINDS SKUNK CURRANT IN DEEP SNOW AT OPPORTUNE TIME

In the latter part of December, 1929, while trying to arouse interest in blister-rust control in the town of Vienna, Maine, an odd but opportune incident occurred.

Mr. O. Whittier, one of the pine owners of the town, stated that he had about 14 acres of young reproduction coming in on cut-over land. During the conversation he asked me if I supposed there was any rust in this area of young pine. I said we'd better look over the trees. Two of his sons accompanied me to the area. Quite a number of young pines were infected and some were dead. There was no doubt but that rust was there. However, I was a little disturbed because they seemed rather skeptical in regard to the part played by the gooseberry and currant leaves in spreading the rust.

As we were circling through the area I noticed a dead pine. Near it, about 3 feet away, was an old stump showing above the snow, which was about 14 inches in depth. Lo and behold, sticking above the snow a foot or more was a shoot of skunk currant beside the stump. On finding this bush it was not hard to convince Mr. Whittier that the currants and gooseberries did cause the spread of the disease.

J. M. White, Me.

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MORE SKUNK CURRANTS AND MORE SNOW

On February 11, Mr. W. O. Frost, while on a field trip, noticed a large pine with numerous infections both young and old. On close examination he found growing over a rock, and showing above the snow, a good number of skunk currant shoots.

In this town of Smithfield, Somerset County, Maine, Mr. Frost was surprised at the number of infections found. Also there seemed to be more large trees showing cankers and many were of the stem.

J. M. White, Me.

EDITORIAL

The attention of the agents is particularly called to Mr. Hurford's page entitled "Notes from Rhode Island". Here we find a number of interesting facts detailed in a concise manner and all of them more or less related to blister-rust control. It is believed that many of us can profit by studying Mr. Hurford's notes and in the future write articles that as far as possible relate to blister rust and that are short and to the point.



DECREASE IN NUMBER OF PERMITS FOR INTERSTATE SHIPMENT  
OF RIBES NOTED IN MASSACHUSETTS DURING 1929.

Since 1926 there has been a noticeable decline in the number of requests for the shipment of Ribes nursery stock into Massachusetts from other States. This decrease in the number of permits issued also involved a reduction in the number of Ribes plants in the shipments, except in 1928 when there was a marked increase. This decline is indicated in the records below for the years 1926 to 1929, inclusive.

<u>Year</u>	<u>Number of permits issued</u>	<u>Number of Ribes shipped</u>
1926	458	3,933
1927	248	3,479
1928	220	4,345
1929	153	2,582

It seems a bit insistent to the layman to have so much energy devoted on the one hand to reducing the number of cultivated Ribes in connection with the general control program, and then on the other hand to permit an increase in the cultivated Ribes population by allowing the entry of so many plants from other States. These Ribes, of course, were destined to points outside of the local control area towns and to that extent this matter is not of grave concern. It is at least helpful to note that there is a decrease in the number of such permits, because it is probably the case that some of these plants do not find their way into control area towns.

Feb. 7, 1930.

C. C. Perry, Mass.

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WHAT HAS HAPPENED TO THE BLISTER-RUST AGENT'S ACTIVITIES?

From time to time as I receive the Blister Rust News and note the contents therein I cannot help but wonder what has happened to the blister-rust agent's activities.

A big paper has its editors and reporters. If the reporters furnished no news there would be no paper. In the Blister Rust News we have our editors and aren't the blister-rust agents the reporters? So why isn't it up to us to furnish some news of our activities from time to time?

I for one get a real "kick" in reading about the different agent's experiences in the field whether it be summer or winter. Surely we all have some interesting contacts with the public during the month and at least one of them would be of interest to the rest of us. I enjoy reading the Blister Rust News from cover to cover, and I feel sure we all do, and when we read it let's read it with joy in feeling that we have helped by contributing some news for the other fellow to read. I just want to hear from the rest of the "Ribes Hounds" - that is all.

E. M. Brockway, Mass.

## NEW YORK ADOPTS UNIFORM SYSTEM FOR MAPPING WOODLANDS

Some of the New York agents are busy taking off data from their woodland mapping work done last fall and through the early winter months, and transferring the same to tracing-cloth maps. Each map represents a township and is about the size of the U.S.G.S maps. Sometimes they are drawn on a slightly larger scale than the conventional U.S.G.S. maps. Where the road blocks are small in size and a good many occur in a township, it is almost necessary that the map be constructed on a scale of at least one and one-half inches to the mile. The hardwood is represented by a series of dashes and where pine occurs the letter "T" is used. By this unique method it is an easy matter to make alterations on the map with very little changing, e.g. if it is discovered that a piece of white pine was missed in the mapping work and on the map is designated as hardwood it can be changed over easily by making a dash into a "T". Any changing in the boundaries can also be easily made.

By having the data on tracing cloth, photographic prints can be easily made and as many maps or prints as are necessary can be made available. A foreman doing scout work or looking up pine areas for eradication, by having one of these maps will be able to save much time in locating pine areas. By referring to the road block and to the particular piece of woods within the block by a number it is possible to direct a stranger almost exactly to any pine lot.

This is a uniform system used by the Conservation Department in the Bureau of Forest Pest Control and should prove of great value not only in blister-rust work but along other lines of conservation work. Quite a few of the counties in the State, particularly the forest-covered counties, have already been mapped. The mapping in the field, together with the work of transferring the data to the tracing cloth, makes very profitable as well as interesting work during the winter months.

H. G. Strait, New York.

## FORESTERS ON THE TARGHEE NATIONAL FOREST BECOMING BUG CONSCIOUS.

Of particular interest to a plant pathologist is the fact that a forester has written an article entitled "An Adventure in Bug Hunting" in the "American Forests and Forest Life" for February, 1930. The article is by Mr. David Arrivee, Assistant Supervisor, Targhee National Forest, which is situated in northern Idaho. A dangerous insect infestation, bark beetles, was discovered in 1927 on the Forest. The ordinary method was to fell the infested trees, skid them together in piles and burn them. The insects were too numerous, however, for this slow method and the forest officers devised an experiment to scorch the pine beetles by burning kerosene on the tree trunk, using a pressure pump. They coated the trunk of the beetle infested trees with kerosene, spraying as high up as possible in order to make the fire go clear to the top. The kerosene coating is lighted and the tree trunk is enveloped in a sheath of flame, which leaves the bark charred black and the beetles beneath it dead. A check up on the "number of trees attacked on treated areas after the summer emergence is only fourteen to sixteen per cent as many as were treated, a ratio that should reduce the infestation to practically nothing in a few more seasons."



Mr. Arrivee continues: "A disconcerting thing about insect infestations, however, is the astounding way in which new infestations pop up on areas widely separated from former centers of attack. It seems as if nothing short of a bird's eye view can locate at one time all of the small developing attacks scattered throughout a sea of Lodgepole pine timber in a mountainous country. Forest officers have become what is termed "bug conscious" and are constantly on the lookout for the occasional groups of rusty-topped trees and for the pitch tubes that mark an attack. A few of the small infested areas are being partly controlled by sales of the timber for the manufacture of ties; all of them are promptly included in the plans for complete control.

"Anyone connected with a bad forest tree insect epidemic will admit a great deal of respect for the opinion of the scientists who insist upon the somewhat pessimistic statement that we are still in the insect age. We on the Targhee National Forest are certain that these men know their insects - particularly beetles."

Extract by R. G. P.

Edit:- In the Northeast, foresters have long been "tree-disease conscious" as a result of the invasion of their forests by the chestnut blight and the white-pine blister rust.

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#### MINNESOTA BLISTER-RUST CONTROL CONFERENCE

On March 3, an interesting blister-rust control conference was held at the University farm in St. Paul, at which were present the following men: Dean E. M. Freeman, Dr. E. C. Stakman, Art Verral, Frank Kaufert from the Plant Pathology Division, University of Minnesota, Dr. W. H. Alderman and Mr. W. G. Brierly from the Horticultural Division of the University, J. D. Winter, State Nursery Inspector, P. O. Anderson, Extension Forester, Dr. Henry Schmitz, and E. G. Cheyney of the Minnesota Forestry School, L. W. Melander, State Barberry Eradication Leader, G. M. Conzet, Commissioner of Forestry and Fire Prevention, A. F. Oppel, Deputy Commissioner, Dr. J. F. Martin of the Office of Blister-Rust Control and L. B. Ritter, State Leader,

Resolutions were passed favoring a more energetic program in blister-rust control, and suggesting that adequate studies be undertaken of genetics and epidemiology as related to the control of the white-pine blister rust.

L. B. Ritter, Minn.

# CONTROL WORK ON STATE-OWNED LANDS IN MASSACHUSETTS

Never before have so many State Departments in Massachusetts cooperated in the eradication of Ribes from lands under their jurisdiction. The outstanding departmental cooperation was that with the Department of Conservation through its Division of Forestry. Through the interest of Mr. Cook, Chief Forester, a number of lots, especially in the Franklin-Hampshire district, were thoroughly searched for Ribes under the direction of Agent Doore. In the Division of Fisheries and Game in the same Department, Chief Game Warden Bourne requested assistance from Agent Clave for preliminary work on a small reservation in the town of Princeton.

In the Hampden-Hampshire district, Agent Wheeler enlisted the cooperation of Supervising Engineer Hammond in conducting emergency work on the vast land area which is being acquired by the Commonwealth in the Swift River Valley Metropolitan Water Supply project. The particular problem involved in this project in 1929 was to eradicate the Ribes on the farms which have been abandoned on the watershed. This was undertaken because of the fact that previous experience in another section (Wachusett Dam Reservoir-Worcester County) has shown that in a few years following abandonment, particularly after the demolition of buildings, it is difficult to locate the abandoned sites. By removing the Ribes now before the surroundings revert to brush, we also prevent the probable establishment of seedling plants from the unharvested fruit of cultivated Ribes.

In the Southeastern district, the officials of local institutions in the Department of Mental diseases cooperated with Agent Brockway in control work on the institution grounds at the Medfield State Farm, and the Wrentham State School. The Superintendent of the Prison Colony (Department of Correction) at Norfolk permitted the use of prisoners (trusties) in eradicating Ribes from the extensive lands on the new prison project which is nearing completion in that town. The Department of Public Health also cooperated in control work on the grounds of the Norfolk State Hospital (cancer patients) in the same town.

The following data indicates the extent of this phase of control work in Massachusetts during the 1929 Ribes eradication season:

Area (acres) of land examined for Ribes .....	16,857
Number of wild Ribes uprooted .....	85,431
Number of cultivated Ribes destroyed .....	3,081
Expenditures by the cooperating departments .....	\$1,947.47

Feb. 7, 1930.

C. C. Perry, Mass.

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## BEAVERS ERADICATE SKUNK CURRANTS

In the town of New Portland, Maine, an area of skunk currants consisting of about 25 acres was drowned out by beavers building a dam. Evidently the beavers have the right idea as to control.

J. M. White, Me.

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WOODLOT OWNERS IN STRAFFORD AND BELKNAP COUNTIES, N. H.,  
BEGINNING TO PRACTICE FORESTRY.

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A study of the woodlot operations of 21 timber growers in Strafford and Belknap Counties, New Hampshire, has been made and the results summarized by Agent W. J. Cullen.

The woodlot areas vary from 10 to 2,000 acres in extent, the total area being given at 7,043 acres. White pines were being favored on the 25 lots studied. In 20 of the 25 lots Ribes were stated to have been removed. Only in one place, on a 10-acre lot, was it stated that no Ribes eradication was carried on because of the very heavy rust infection on pines.

Conservative cutting was practiced in 12 lots.  
Release cutting and favoring of pine  
    in cutting in .....14 "  
Pruning carried on in .....8 "  
Pine reproduction was being secured in 6 "

Other silvicultural practices mentioned were the cutting of wolf trees, leaving of seed trees, etc.

Besides protecting the pine from the rust, the blister-rust control agent has been responsible in many of the cases studied for the initiation of some other silvicultural practice.

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LASTING QUALITIES OF WHITE PINE ARE WELL ILLUSTRATED IN  
REMINISCENCES FROM THE PINE-TREE STATE.

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A large sawmill was located in Waterville, Maine, about 40 years ago, which was owned by a Mr. Ware. It has been past and gone for many years. An old man who worked on the boom related the following: "The Lockwood Mill Company of that city desired some lumber of the following dimensions: white pine four inches thick, four feet wide and any length. Years before, how long is unknown, a drive had been "hung up" on the upper part of the Kennebec River. This particular spring Mr. Ware salvaged many of these old "punkin pine" and brought them to his mill. The lumber for the Lockwood Company was sawed from these salvaged logs. The actual length of time these logs had lain along the river was unknown.

\* \* \*

Mr. William Fowler, an old Penobscot River shipbuilder and carpenter, now deceased, related the following: "Years ago while I was building over some lake steamers I contracted to build for Colonel Colt of the Colt's Firearms Company a set of camps at North East Carry, Maine. The shingles for this set of camps were sawed from white pine hearts of logs that the moss had covered on the outside from two to four inches in depth. On the removal of this moss the heart-wood was found to be sound as a nut." How long these logs had lain there was unknown. But I do know that my grandfather White went up into this region in the year of 1833 at the age of thirteen years, as a chore boy. This was fifteen years before Mr. Fowler was born and probably 45 years before he built these camps.

John MacG. White, Me.

PENNSYLVANIA PLANTING PROGRAM

Mr. Charles R. Meek, Chief of the Bureau of Extension, Pennsylvania Department of Forests and Waters, has presented some very interesting information on tree planting in Pennsylvania in the December, 1929, issue of the Journal of Forestry, under the title "Forest Tree Seedlings - For Reforestation or for Distribution?".

The State of Pennsylvania owns approximately 1,290,000 acres of land, of which 30,000 acres are now in need of reforestation. Most of this, however, is in cut-over and badly burned woodland which at the present time is difficult of access and consequently exposed to fire danger. Nearly all of the bare accessible areas have been reforested.

On the other hand, there is a large area of idle fields, abandoned farms, and land with little valuable tree growth in private ownership in Pennsylvania that must be reforested by artificial means if it is to produce a valuable tree crop within a reasonable time. Taking these facts into consideration, it seems to me clear that the privately-owned land offers the greatest reforestation opportunities. With land at \$5, trees at \$3, and planting at \$10 per acre, the total initial investment for each acre of land reforested is at least \$18, to be carried until the crop is harvested, with resulting benefits to the public in general as well as the landowner. It seems that if the private tree planter is willing to make this investment in the hope of profitable financial returns, or present personal satisfaction, the State is justified in encouraging him.

To date over 37,000,000 forest tree seedlings have been planted on the State forests, reforesting approximately 25,000 acres. \*\*\*.

During 1928 a check-up was made of the private forest tree plantation situation in 20 counties so picked that the survey would be representative of the entire State. \*\*\*. Data on the survival of pines is as follows:

Number of Trees Planted and Survival by Species

<u>Species</u>	<u>No. of trees planted</u>	<u>No. of trees now growing</u>	<u>Survival per cent</u>
White pine .....	1,746,310	693,250	40
Scotch pine .....	1,171,780	519,115	44
Jack pine .....	114,770	56,423	49
Norway pine .....	344,326	144,407	42
Japanese black pine .....	25,387	9,931	39
Japanese red pine .....	160,462	74,588	46
Shortleaf pine .....	124,850	49,239	39
Pitch pine .....	595,996	245,406	41
Lodgepole pine .....	50	0	0
Table Mountain pine .....	13,500	1,941	14
Virginia pine .....	11,200	302	3
Austrian pine.....	17,700	8,900	50
Bull pine .....	2,000	0	0
Western yellow pine .....	2,600	1,360	52



The Reforestation Committee appointed by the State Forester in 1923 to study the results of the plantation survey has made a number of recommendations, among which are the following: \*\*\*\*

2. The inspection of all private forest tree planting sites and planting operations by representatives of the department.

3. The modification of the present plan for nursery production as follows:

<u>Species</u>	<u>Percentage in present plan</u>	<u>Percentage recommended</u>
White pine .....	27.5	22
Norway (red) pine .....	27.5	30
Scotch pine .....	10	7
Pitch pine .....	8	10
Norway spruce .....	11.33	15
Other species .....	<u>15.67</u>	<u>16</u>
	100.00	100.00

4. The production of standard seedlings of a specified minimum size and stockiness.

5. Spring planting and wise mixture by species.

6. Careful planting with spacing 5 x 5 feet or closer.

7. Wise selection of the best species adapted to the soil.

9. Adequate protection against fire, grazing, trespass, insects, fungi, and other destructive agents.

Extract by R. G. P.

\* \* \* \* \*

#### SUMMARY OF BLISTER-RUST CONTROL WORK IN VERMONT IN 1929\*

During the year 1929, a total of 13,300 acres were worked, as indicated in the January Blister Rust News. Of this area, 449 acres protected were in private plantations, and 15 acres were in the Ainsworth State Forest. Of the total area of 4,288 acres of pine stands protected, 2,292 acres were under 20 years of age, and 1,996 acres were over 20 years of age.

#### Reeradication

Areas covered in reeradication work in 1929 accounted for 22% of the acreage; 763 acres of pine being protected by working 3,005 acres.

#### Black Currant Work

Each of the agents has carried on a systematic black-currant survey in the towns where the major portion of the pine areas have been protected by the eradication of wild Ribes. On the Ainsworth State Forest two hundred and twenty (220) black currants were removed from the garden of an abandoned farm.

\* Extract from the Annual Report by Mr. P. H. Merrill for 1929.

THE FUTURE OF FOREST PARASITES IN THE UNITED STATES.\*

By J. S. Boyce,

(Continued from February Issue)

Except from the heartrots, which will be largely controlled by a reduction in the felling age, as time goes on there will be an increase in losses from native parasites, now little considered or scarcely recognized. This will result as forests are brought under intensive management, so that trees attain the status of cultivated plants. Yet many of these losses can be avoided. Our silviculture should emulate nature, improve on her methods but not radically change them. Where nature has provided a mixed forest, the same relative composition should be maintained, for mixed stands are far less susceptible to fungus and insect attack than pure stands. The lessened damage by the white-pine weevil (Pissodes strobi) to northern white pine (Pinus strobus) in mixed stands as contrasted to pure stands is a case in point. Clear cutting should be avoided as far as possible except where it has been nature's way. In general the sudden and complete exposure of the soil resulting from this method cannot but be less favorable to the new stand. The selection or shelterwood method should be practiced and when cuttings are made diseased and undesirable trees should be eliminated.

Stands should be reproduced naturally and planting avoided, unless no other method will serve. Experience has shown that planted stands are more susceptible to disease, particularly root rots, than those naturally regenerated. But if planting must be resorted to there are certain principles to be followed. The source of seed is highly important. The seed should be obtained from stands in a climate similar to that where it is to be used, from stands on the better sites, and from thrifty mother trees. Furthermore, plantations should be established on sites suitable to the species. This precaution seems scarcely worth mentioning, but it is often neglected. Where forest conditions have been destroyed over extensive areas by devastating fires for example, it is often difficult to completely reestablish the species which previously occupied the ground. On the less favorable situations the trees grow slowly, and readily succumb to parasites. It is not until such time as the surrounding stands are large enough to afford adequate protection that trees can be reestablished on such situations. An example of this is to be seen in the Douglas fir plantations on the Mt. Hebo area in Oregon.

Planting, of course, has a definite place, but because of its strong appeal to the imagination it may be overdone. There is a decided temptation for an industry which finds one type of wood best suited for its use growing in a mixed stand, to attempt to change the mixture to a pure stand of the desirable species by planting. To the pulp industry, pure stands of spruce would be much more desirable than the mixed stands, from which spruce now comes, but if pure stands are established heavy expenditures will ultimately have to be made for soil fertility and protection against parasites in order to maintain production, just as is now done in agriculture.

\* From Journal of Forestry, February, 1929.



To sum up then, increased losses are to be expected from introduced parasites in spite of our quarantine laws and we must prepare to meet these unwelcome guests by carefully studying them in their own homes and obtaining a thorough knowledge of similar native parasites, so that immediate action can be taken when the necessity arises. Losses from native parasites, now considered of little importance, will also increase, but ultimately these losses will be controlled by proper silviculture. Finally, no management plans can be considered complete which do not take fully into account the possible losses from forest parasites.

(The End)

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TREES \*

(Dedicated to a Tree Expert)

I think that I shall never see  
A Tree Expert look at a tree;

A tree that's standing in its prime,  
But that he'll say, "It needs some lime".

A tree whose roots are deep in dust,  
Without his muttering "Blister Rust".

A tree that's fine in every way,  
"Ah, Scurfy Scale! It needs a spray."

A tree that's perfect as can be,  
But; "San Jose Scale got that tree".

Forests are made of lovely treeses  
That Experts find full of diseases.

\* Yale Forest School News 18 (1): 19. January. 1930.

By Joseph Kittredge, Jr., Silviculturist,  
Lake States Forest Experiment Station.

(Continued from February Issue)

### Thinning, Pruning, and Intermediate Cuttings

More trees are planted in forest plantations than will live to be harvested in the final crop, and it is therefore desirable to thin out some of them, unless losses have been so heavy or the spacing is so wide that less than 400 or 500 trees to the acre remain. Assuming that there have not been heavy losses, a certain proportion of the trees should ordinarily be cut before the competition between them becomes so severe that considerable numbers are dying naturally.

If the trees are spaced 6 by 6 feet, a first thinning should be made when they are about 25 years old. At this age, the trees will be from 1 to 7 inches in diameter, and only a few of those which are cut will be large enough to be otherwise marketable but they probably will have sufficient value locally for fuel to pay for the cost of cutting them. The benefit of the operation will then come in the increased growth and improved quality of the remaining stand.

With 8 by 8 foot spacing, thinning does not become necessary until the trees are 40 or 50 years old, but at that time the product of the thinning will undoubtedly be merchantable for pulpwood or fuel and will bring a small profit over the cost of the operation.

Plantations spaced 5 by 5 feet or closer should be thinned when they are about 15 years old and before they will yield marketable wood material. Thinnings in spruce of this age can usually be marketed at a good profit in December for Christmas trees.

As there are several methods of making thinnings, the advice of the forester should be obtained to assist in marking the trees to be cut. As a general principle, thinnings should be made lightly and frequently, even though the procedure is often not feasible economically. In Germany thinnings are made every 10 years and give 25 per cent of the net profit from the whole forest crop. Always in a thinning operation, trees which show evidence of disease or insect work or are crooked or broken should be removed.

Pruning the trees in forest plantations by cutting off the dead and lower green limbs with a saw or ax is sometimes practiced. If an ax is used, the branches should be cut from beneath by upward strokes to avoid splitting. The branches should be trimmed close to the trunks so that the new wood that will form over the branch scars will be without knots, making the lumber of higher value. Since logs for sawing are usually cut in 16-foot lengths, pruning for the production of high-quality logs should be to a height of 17 feet from the ground. This can be done for the higher branches by attaching a saw to a pole. Only the 200 or 300 trees to the acre which are most vigorous and will make up the final timber crop, need be pruned. \*\*\*.

\* Extracts from U. S. Department of Agriculture Bulletin #1497, June, 1929.



The effect of the pruning on the quality of the timber was demonstrated in a northern white-pine stand in New Hampshire. The best trees, which were to be kept for the final crop, were pruned when they were 3 or 4 inches in diameter. After 20 years they had added sufficient clear wood to make cutting profitable. The owner of this area found that the pruning increased the value of his lumber about \$40 a thousand board feet. The same owner concluded that it did not pay to prune Norway pine.

In an unpruned pine or spruce plantation during the first 15 years the limbs have needles almost to the ground, and the risk of complete destruction if fire gets started in the plantation is great. Pruning unquestionably reduces this fire risk. But pruning costs from \$5 to \$20 an acre, or as much as the planting of the trees in the first place. So large a cost is not justified as a protection measure because effective fire protection can be obtained at much lower cost by the construction of fire lines and the maintenance of a fire-protective organization during dangerous seasons. Pruning for protection can only be justified over small areas where it may be done in spare time by an owner himself or by a fire guard on rainy days, the cost thus being only incidental.

As a means of increasing the value of the timber, if the results obtained in New Hampshire with northern white pine are applicable elsewhere, pruning is amply justified; though there is always the chance that the wounds made by cutting the branches may result in attacks and losses from insects and diseases which might offset the increased value due to improved quality of the product. Pruning is chiefly desirable in plantations which are widely spaced or composed of trees, like northern white pine, which do not shed their branches easily.

Cuttings to release planted trees will be needed on cut-over lands where hardwood stumps sprout or where there is a natural growth of aspen, paper birch, oaks, jack pine, or other trees which have a start over the planted trees or grow more rapidly than they can during the first few years and are likely to crowd them out. Northern white pine and the spruces will ordinarily suffer only a little retardation of growth, and the plantations may even benefit from overhead shade by increased survival until they are 15 or 20 years old and 5 or 10 feet high. About that time the larger natural growth of other species should be cut. If the brush is dense, however, and the planted trees are being damaged, it may be wise to release them within five years after planting. \*\*\*.

(To be Continued)

#### A FAIR SECOND-GROWTH PINE

Mr. E. E. Berry of Pittsfield, Maine, told the following story:

In a certain part of the State he had recently cut a white pine, and that the sixteen foot butt log sawed out 1,000 feet. This particular pine had grown since the Merimeche fire, which took place about 90 years ago, had swept over that area.

J. M. White, Me.



CHAIRMAN LEGGE ON THE FEDERAL FARM BOARD URGES  
RESTORATION OF THE FARM WOODLOT.

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Restoration of the woodlot to the American farm was proposed in a radio talk on January 27th through station WRC by Alexander Legge, Chairman, Federal Farm Board, as one of several good ways to reduce the acreage planted to surplus crops. Such action on the part of farmers generally, he said not only would result in helping them to get a better return for what they grow but would add materially to the future value of their farms.

The text of Mr. Legge's talk follows:

"In the declaration of policy of the Agricultural Marketing Act, which seeks to place agriculture on an economic equality with other industries, one of the definite instructions given to the Federal Farm Board by Congress is to deal with the problem of overproduction. Congress directed the Board in subparagraph (4) of paragraph (a), Section 1, to aid in preventing and controlling surpluses in any agricultural commodity, through orderly production and distribution, so as to maintain advantageous domestic markets and prevent such surpluses from causing undue and excessive fluctuations or depressions in prices for the commodity.

"Naturally the first thought in approaching this subject is the development and broadening of markets in every way possible, both at home and abroad, to provide an outlet to the maximum extent for products of the American farm. We must recognize, however, that after all there is a limit to the quantity of any commodity beyond which it will be impossible to find a profitable outlet and it seems clear in the case of some of our commodities that production now is in excess of quantities that can be disposed of at prices that will afford a reasonable return to the producers. \*\*\*.

"It should require no great amount of argument on our part to convince the grower that if a somewhat reduced production would result in bringing him more money than he now is getting with a larger production, it would be foolish for him to expend the time and labor and to exhaust the fertility of his soil in producing that excess when the result of such excess production would be only to bring him a lower financial return than he might have had by adjusting his production downward to a point where the consuming demand would absorb what he grows at a reasonable price. \*\*\*.

"We are immediately confronted with what use to make of the present cultivated acreage that would not be required in a modified agricultural program. Many good suggestions have come to the Board on this subject. Time will not permit discussion of all of them here, but I wish to offer one that seems to meet with very general approval, namely, reforestation.

"Most people think of a reforestation program along the lines of large areas, commonly accepted in terms of the future timber supply, but there is another kind of reforestation that is equally important - in fact, more important to agriculture - and that is the restoration of the so-called



'woodlot'. In the past the woodlot has played an important part in the prosperity of a large percentage of our farmers. It has furnished shade for livestock in summer and shelter in winter, posts for fences, firewood for the house and in other ways been useful to the farmer.

"In many areas this woodlot is disappearing. Why not restore it? In doing so we would only be following the example of many of the older nations that in the past have had to meet a similar situation as that now confronting us. If every American farmer were to devote five per cent of his present acreage to this form of reforestation he would have gone a long way toward meeting the problem of excess production and at the same time have added materially to the future value of his farm.

"The different States have a very important part to play if any campaign to restore the woodlot to the American farm is to be successful. That is in the matter of taxation. Some States have already passed legislation exempting from taxation land that is planted for the purpose of reforestation. Other States should do so, being specific to make such exemption apply to the woodlot as well as land planted to timber on a strictly commercial basis.

"Reforestation and more and better pastures offer a sound long time program for getting our poorer acres out of surplus production."

## P U B L I C A T I O N S

### Blister Rust

Faull, J. H. Notes on Forest Diseases in Nova Scotia. Journal of the Arnold Arboretum, Vol. XI, No. 1, Jan., 1930, p. 55-58. This contains a lengthy paragraph on blister rust which has been quoted on page 63.

### Forestry

Ritter, Lawrence. Your Woodlot. The Gopher Countryman (St. Paul, Minn.), October, 1929, p. 22-23. Mr. Ritter mentions the blister rust in this article.

### White Pine

MacAloney, Harvey J. The White Pine Weevil (*Pissodes strobi* Peck) - Its Biology and Control. Bulletin of the New York State College of Forestry at Syracuse University, Vol. III, No. 1, Feb. 1930.

A M O N G O U R S E L V E S

Dr. J. F. Martin left Washington on February 25, for an extended field trip to Pennsylvania, Iowa, and the Lake States.

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Mrs. Mary Louise Reiff, in charge of the File Room of the Washington office, resigned March 17. She was given a farewell luncheon by fellow employees at the Garden Tea Shop. Mrs. Reiff has been with this office since January, 1927.

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Mrs. Coral J. Photis of this Office, accompanied by her husband, left Washington on February 17, for an extended trip through southern Europe. A card has just been received from Mrs. Photis stating that they were in Monto Carlo and were going from there to Nice, France.

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An announcement has been received from Mr. and Mrs. R. B. Lanham of Indianapolis, Indiana, of the birth of a daughter, Virginia May, on February 16. Mrs. Lanham was formerly Mrs. Leolia Halper of the Washington Office. Congratulations.

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Barnyard Golf at Washington, D. C.  
Friday, March 7, 1930.

"High Power" Avery and Jack Palmer  
vs.

Eddie Schmidt and "Put" Putnam of the Western Office.

Eddie and Jack pitched about an even match with a few more ringers for Eddie. "H.P." pitched a mean shoe too, but he managed to get outside of 6 inches from the stake occasionally so there'd be no score. Sensational, however, was the pitching of our "Put" with his peculiar wabbling, hurtling shoe. Sometimes it landed in the box, sometimes not, and yet the 2 ringers that "Put" inadvertently threw helped materially to pull the game for himself and Schmidt.

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Mr. A. W. Hurford of Rhode Island writes that he is coming along in fine shape after his appendicitis operation. He states that he became over-ambitious a couple of times and had minor setbacks, but feels that he has been fortunate in his quick recovery.



O F F I C E C O M M E N T

PULLMAN ACCOMMODATIONS

The Travel Regulations require that through rates for Pullman accommodations be secured, and to this end one transportation request should be issued for the space desired for the entire trip even though change of cars en route is necessary. The request should be presented to the local Pullman agent who is required to enter a reservation for accommodations to the first transfer point on the face of the request and return same to the traveler. The Pullman agent should not be expected to issue a through ticket for the entire trip, but might be prevailed upon to wire for reservation for space beyond the transfer point.

On boarding the train the transportation request should be handed to the Pullman conductor who should furnish accommodations, and issue a transfer ticket calling for space beyond the transfer point. On reaching transfer point traveler should present transfer ticket to the Pullman agent, or if this is impracticable, to the next Pullman conductor who should furnish accommodations for the balance of the trip.

Example of above procedure

Traveler desires lower berth from Washington, D. C., to Madison, Wis., there is no through car, and transfer at Chicago is necessary. Local Pullman fares total \$11.25, while the through rate is \$9.00 How shall he proceed?

Issue transportation request for lower berth from Washington to Madison, and present the same to local Pullman agent, who is required to enter reservation to Chicago and return request to the traveler. On boarding train, hand request to Pullman conductor, who is required to furnish lower berth to Chicago and to issue a transfer ticket for lower berth from Chicago to Madison. This transfer ticket should be presented to the Pullman agent at Chicago, or to the Pullman conductor on train from Chicago to Madison to enable the securing of berth for balance of the trip.

Should the accommodations originally called for on a request not be available for any portion of the trip, or should Pullman representatives refuse to comply with the above requirements, the facts should be submitted in writing to this Bureau in order that the matter may be taken up with the Pullman Company for adjustment.

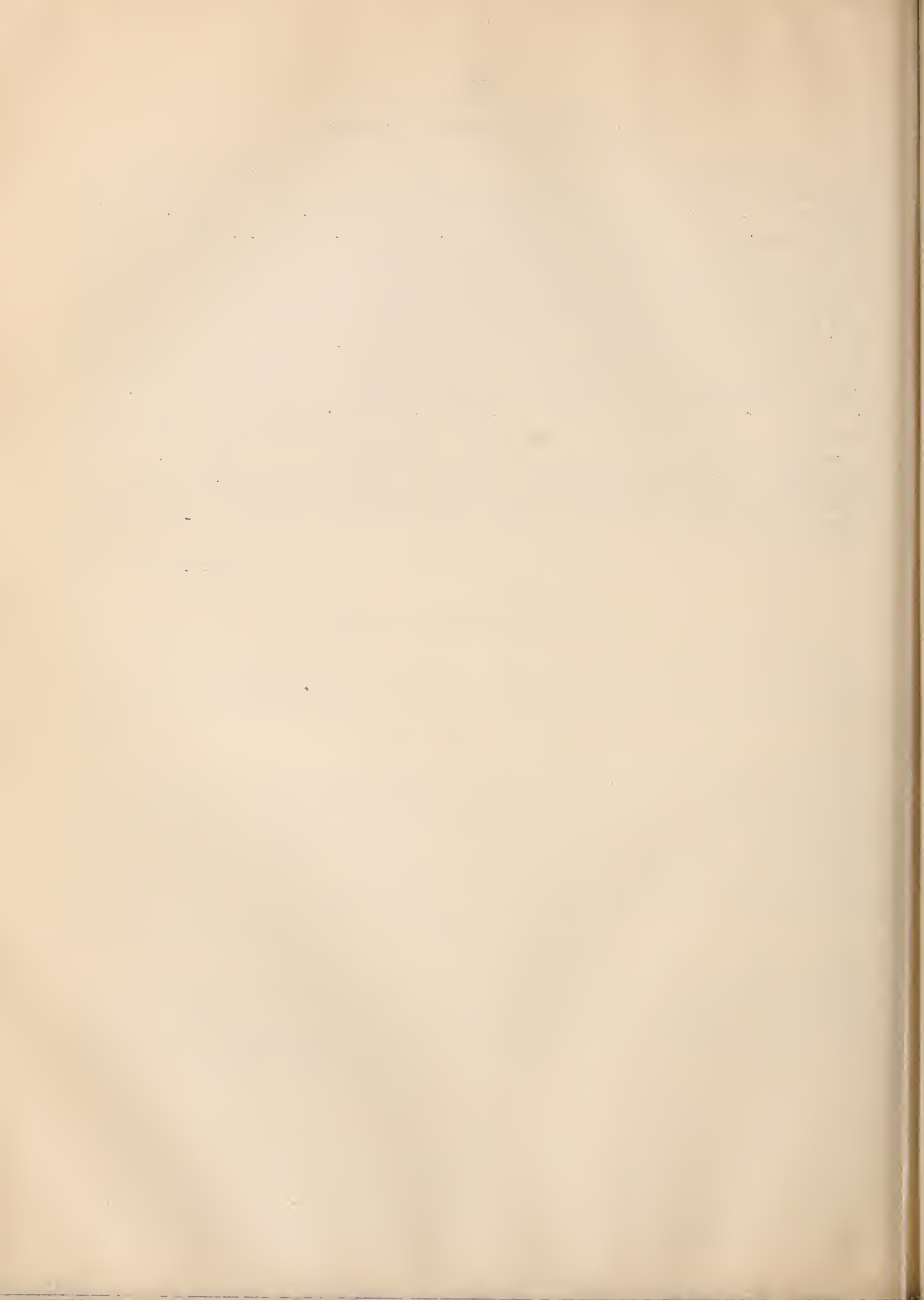
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FELLOWSHIPS IN FORESTRY ANNOUNCED

The Charles Lathrop Pack Forest Education Board offers a number of fellowships in forestry for the year 1930-31. Six to eight fellowships are available. No restrictions are made as to age, educational status, or practical experience. Ordinarily, however, the fellowships will be granted only to those who have finished an undergraduate college course or its equivalent. The Board may appoint men who are still doing academic work or men who are already engaged in professional work who would be benefited by a year or more of study at a school of forestry, or at an institute of research, or on a forest under management, or in association with the forest industries, or in travel. Generally speaking, the fellowships will range from \$500 to \$2500. Appointments may be made for twelve months, or for a longer or shorter period, in accordance with the scope of the proposed work, and may be renewed in the discretion of the Board. Applications for fellowships must be made in writing, on the prescribed form (which can be secured from the Secretary) on or before April 15, 1930, to the Secretary of the Charles Lathrop Pack Forest Education Board, 1214 Sixteenth Street, N. W., Washington, D. C.

R.G.P.





SUPPLEMENT TO

THE BLISTER RUST NEWS

Vol. 14, No. 3. March, 1930.

C O N T E N T S

Page

Some Experiments Made With Regard to Sprouting in Two Species of Wild Gooseberry (Ribes rotundifolium Michx. and R. cynosbati L.)....90A

By E. W. Littlefield.





SOME EXPERIMENTS MADE WITH REGARD TO SPROUTING IN TWO  
SPECIES OF WILD GOOSEBERRY (RISES ROTUNDIFOLIUM MICHX.  
AND R. CYNOSBATI L.)

E. W. Littlefield, Asst. Forest Pathologist  
N. Y. State Conservation Department  
Albany, N.Y.

.....

Introduction: Purpose of the Studies.

The experiments described in this paper were carried on as one of the several projects initiated by the New York State Conservation Department in 1923 and the years following, for the study of the white pine blister rust, with special reference to local control problems. The program for the controlling of this disease, which has been carried on by the State in cooperation with the United States Department of Agriculture since 1916, has developed increasingly intensive methods of eradicating plants of the genus Ribes, the alternate host.

It goes almost without saying that the first requisite for developing such methods to the point of highest efficiency is a detailed knowledge of the life history and habits of these host plants. In this connection, there is perhaps no point on which sound basic data are more essential than that of the sprouting habits of the various species. It was recognized by field workers from the first, that Ribes as a group were exceedingly active in producing new shoots, or sprouts, from the basal parts which might be left in the ground after the pulling up of the bush. This fact has led to an increasing emphasis on the need for thoroughly uprooting the Ribes plants in order to insure as complete eradication as possible. This very emphasis, however, on the danger from sprouting in Ribes has in some instances been productive of doubt in the public mind as to whether it were really possible to eliminate these bushes permanently from an area. Thus, from time to time, statements have been heard to the effect that it is not practicable to attempt the eradication of Ribes "because they will sprout again from the roots." While such a point of view would ordinarily be held only by persons not wholly familiar with the methods used in this work, its existence, even in isolated cases, constitutes a challenge to our knowledge on this point. The doubt referred to, moreover, is justified to this extent: that even when care is taken to thoroughly uproot the bushes, it is not always the case that the entire root system is removed; small roots and occasionally larger ones, tend to break off and remain in the ground. Thus, from more than one standpoint, it is essential to know definitely the extent to which Ribes roots left in the ground after eradication may be instrumental in producing a new crop of Ribes.



### Nature of Ribes Growth.

In entering upon a discussion of the sprouting habits of Ribes, it is first necessary to have a clear understanding as to the general nature of Ribes growth. The typical gooseberry or currant bush consists, like other shrubs, of a group of stems or canes springing from a common base. As a seedling, the Ribes plant has at first only the single stem developed from the primary axis of the embryo. As early as the beginning of the second year, however, strongly growing shoots may arise from near the base of the original stem, soon equalling or exceeding the latter in length; in succeeding years this process is repeated, until the typical shrub form is developed. The canes comprising the average Ribes bush are thus of various ages, the older ones dying off from time to time, while new shoots, in thrifty bushes, are constantly arising from adventitious or dormant buds at the base of the plant.

As the Ribes plant increases in age, there is developed at the base a thickened structure, mostly subterranean, which persists year after year, constituting a nucleus from which both roots and aerial shoots take their origin. In old bushes this may become quite massive, in addition to taking on considerable irregularity and distortion through the increase in tissue made by the newly developing shoots and roots. (Plate I) This part of the plant seems to be known rather promiscuously as "stock," "root-stock," "root-crown" or simply "crown," - the latter term having found common use in the parlance of Ribes-eradication work. Although its subterranean habit, external appearance and close association with the roots have led to a more or less general impression that the "crown" is a part of the root system, and though in a sense it forms a transition region or point of junction between root and stem, it is nevertheless made up essentially of stem tissue. This may be seen by taking a cross-section through the "crown," in which a central brownish core of pith, characteristic of stem tissues in Ribes, will appear (Plate II). No such pith occurs in the roots of Ribes. Thus, from the standpoint of morphology as well as from that of external relationships, the "crown" does constitute a structure apart from the roots and is known to be the region of greatest activity in the production of Ribes sprouts. To find out whether individual roots would develop sprouts, quite independently of the "crown," has been the principal aim of the studies described here.

Cutting off the canes of a Ribes bush usually exerts a strong stimulus toward sprouting from the basal parts remaining, so that there is brought about a replacement of or, commonly, an increase over the stems lost through such an operation. In fact, Ribes under cultivation (4) are purposely so pruned in order to restore their vigor of growth, while, on the other hand, in Ribes eradication the men are particularly cautioned against breaking off the canes without removing the "crown."

A further development of the "crown" structure in Ribes may be produced through the process known as "natural layering." In this process, the Ribes canes become bent over either from their own weight or from the

(4) See Literature cited on page 103



burden of snow, ice, forest debris, etc., until they come in contact with the ground. Sometimes only the tips of the canes will reach the ground, but in many cases, particularly if the bush is growing under shade, the entire cane becomes prostrate. These reclining and prostrate stems have a tendency to take root, at the same time sending up new erect shoots. When the cane reclines and becomes rooted at the tip only, a quite distinct secondary plant is developed, the relationship with the parent plant being made evident by the aerial connecting portion. In those cases, however, where the cane becomes prostrate for all or nearly all its length, uprights will appear at various points along its course (Plate III). The layering stem, meanwhile, becomes covered up with litter and may gradually take on the external appearance of a root. Plate IV shows a short layering stem which had been buried so long as to have lost nearly all traces of its aerial origin.

In the course of time, the layering stem with its uprights may become separated from the parent plant and will continue growth independently. Frequently, however, a stub of the old layer remains as evidence of a previous connection with the parent or with another secondary plant. (See Plates III and IV). Stubs of this kind also bear a close resemblance to roots, and have doubtless played their part in establishing a certain amount of confusion as to the distinction, in *Ribes*, between root and subterranean stem.

#### Observations Previously Reported

Early field studies and general observations, in connection with control work indicated that the so-called "crown" rather than the roots, was the real source of *Ribes* sprouts. Thus, it was stated as early as 1918(5) that "observations on the sprouting of *Ribes* confirm the opinion generally held, that wild gooseberries do not sprout if the crown is completely removed"; and in 1920(6) that "the cut ends of roots seldom sprout." In spite of this, there seems to be a prevailing tendency to speak of "root sprouts" as distinguished from "crown sprouts." A number of studies and observations have been made in the past along this line. Regan(9) laid out several plots at Petersham, Mass., in 1918, in which portions of *Ribes* plants with the tops removed, including in some cases the crowns and in others the roots, only, were placed under observation to determine whether sprouting would take place. The species used were listed as "skunk, red and black currants (*Ribes floridum*) and *Ribes oxycanthoides*" [*R. hirtellum*, Michx.] Examination of the plots the following year showed that where the crown was present, sprouting occurred quite generally in all species when buried to a depth of one inch, and to some extent in all except the skunk currants when buried three inches. No sprouting occurred from the crown when buried more than three inches and none occurred from portions of root at any depth. As a further development of this experiment, the tops and crowns of eleven *R. oxycanthoides* bushes growing under natural conditions were removed and the root-ends (apparently) left exposed. There was no indication of sprouting from any of these plants. Cheyney(3) at Rush Lake, Minn., reported sprout-



ing from root-ends only when exposed to light. The root sprouts he states were less vigorous than those from crowns. Species, time of year and site did not affect results, except that practically no sprouting took place in swamps and none at all in either R. triste or R. prostratum\* under such conditions. Some bushes which did not sprout during the season in which they were pulled, did sprout the second season, following heavy spring rains. Five species (including Ribes cynosbati and R. oxyacanthoides (R. hirtellum Michx.)) were used in these experiments but no statement was made as to the reaction of the different species. Brierly(1) not wholly in accord, apparently, with Cheyney's results, found at Emory's Mills, Me., cases of what were seemingly sprouts from roots of R. hirtellum "broken but not exposed." Endersbee(7) in a study at Colebrook, Conn., reported the finding of root sprouts in considerable abundance where Ribes bushes had been incompletely eradicated. Pierce(8) at Lisbon, Me., observed erect shoots developing from what was termed a "trailing root" of Ribes hirtellum.\*\* Brierly, in his report, cited above, mentions the frequency of layering at Emory's Mills Plots. Cheyney, in discussing the sprouting of Ribes glandulosum, suggests that the sprouts came from "surface roots or layering stems."

In the above review of observations made in the past, relative to the sprouting in Ribes, there may be discerned a certain lack of unanimity in the conclusions reached by the various investigators. Similar differences of opinion on this subject have been noted among field workers and laymen. This situation may be due in part to differences in behavior among the various species observed; the writer has, for instance, received reports from apparently reliable sources, of sprouting from the roots in the case of the English black currant, (Ribes nigrum L.) and the flowering currant (R. odoratum Wendl.) On the other hand, it seems wholly probable that some confusion has arisen with regard to this question because the distinction between true roots and those stems or portions thereof having a root-like appearance, has not been sufficiently kept in mind. Reports by foremen or crew-men of "root sprouts" have in some instances been taken at their face value without further investigation, thereby leading to rather sweeping statements, unsupported by data, on the dangers of sprouting from Ribes roots.

Although the species of Ribes grown under cultivation are not the same as those which are native, some indications as to the habits of Ribes in general should be revealed from a glance at horticultural practice. Were Ribes, as a group, active in the production of adventitious stem-buds on roots, it seems likely that some effort would be made to propagate them from roots or root-cuttings. Yet, though frequent mention is made in horticultural manuals, relative to the propagation of the rose, bramble, apple, elder and other species, by such methods, there is nothing to show that Ribes are reproduced, vegetatively, otherwise than by stem cuttings, layers, or sprouts from the "stock" or "crown."

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\* R. prostratum (R. glandulosum)

\*\* A later examination of this specimen, by Pierce and others, at the Office of Blister Rust Control, Washington, D. C., showed the trailer to be a stem, rather than a root.



In Card's treatise on bush fruits, (2) he quotes from the "Gardener's Monthly" for 1885, to the effect that the English gooseberry has been propagated by portions of root "chopped in pieces three or four inches long and planted"; it was not, however, a common method and the author goes on to state that attempts to duplicate the process in this country had failed. The latter statement would seem to suggest the possibility that the sponsor of the 1885 observation may also have mistaken the identity of certain basal portions of the stem.

#### Plan of the Studies; Description of Study Areas.

In order to obtain some reasonably conclusive information relative to sprouting in the more common species of *Ribes* native to New York State, a series of field experiments was undertaken. These experiments were laid out in 1924 and 1925 by the writer and assistant, Mr. N. W. Fuller, under the direction of Dr. H. H. York, Forest Pathologist, of the Conservation Department.

The experiments consisted of selecting *Ribes* bushes of various ages and types, growing under a variety of conditions, and removing the entire top of the bush, (including the "crown"), as described in detail under "Field Methods." Observations were then made at intervals to note whether sprouts had developed from any of the root portions left in the ground. In 1925 a set of control plots was established, in which all or part of the "crown" was left attached to the roots.

The method of treating the *Ribes* was, in general, similar to that used by Regan. (9) It is felt, however, that these studies have not duplicated the latter's work to any extent, since they were carried on with different species and under the influence of local forest conditions.

The project was limited to the wild gooseberry, which is represented here by two species; the small smooth-fruited, or roundleaf gooseberry (*Ribes rotundifolium* Michx.) and the prickly or pasture gooseberry (*R. cynosbati* L.). These constitute the major species of the *Ribes* population in this region, outside of swamps. The principal swamp species, which are *Ribes glandulosum* Grauer, (the skunk currant), and *R. americanum* Mill, (the wild black currant), do not lend themselves well to the type of experimentation described here. The former, in particular, has commonly a straggling, prostrate habit, sometimes forming a considerable network of trailing vines, more or less tangled up with other vegetation. Eradication in distinctly swamp types, moreover, constitutes a specialized problem, in which knowing the source of sprouts would have less bearing upon control work than in the case of gooseberries.

Ten study areas were chosen in various parts of Warren and Essex counties, N.Y., within the Lake George-Lake Champlain "white pine belt," where the work of *Ribes* eradication has been carried on for a longer time and more intensively than in any other part of the State. In so far as possible, the areas were selected so as to include a number of different



sites, typical of the locality; in each area, then, one or more plots representative of the various sites were established, the whole forming a convenient working unit. The term "plot" is used here for the most part to indicate simply a group of bushes growing under more or less uniform conditions of site and forest type; however, plots of definite bounds were established in some instances, as described later.

Table I indicates the distribution of the areas with regard to location and date of treatment, the number of plots in each area, and the number of plants of each species which were treated. It will be noted from this table that the experiments in both years were carried on throughout the eradication season, which in this region does not usually commence before May 1, nor continue after September 15. Hence the results of the experiments are applicable to the seasonal conditions under which the bulk of the eradication work is done.

TABLE I.  
Data with Regard to Study Areas.

Name of Area	Town in which located	No. Plots	Dates Worked		No. Ribes Treated		
			Year	Period	R. rotun- dofolium	R. cyn- osbati	Total
Kelm Mt.	Warrensburg	10	1924	May 26-29	42	--	42
Harrington Hill	"	6	1924	June 6-9	5	28	33
Paradox	Schroon	3	1924	June 24-27	41	--	41
			1925	May 26			
Crane Mt.	Johnsburg	6	1924	July 7-11	86	3	89
Glen	Johnsburg	4	1924	July 21-23	38	49	87
Nichols	Chester	3	1924	July 25-26	40	--	40
Deerfield	Chesterfield	6	1924	Aug. 6-14	98	11	109
Nolet	Lewis	1	1924	Aug. 25-Sept. 2	12	--	12
Prospect Mt.	Caldwell	2	1925	Apr. 7-30	44	--	44
Goff	Lewis	4*	1925	June 12-26			
				Aug. 24-Sept. 5	82	1	83
Total		48	---	-----	488	92	580

\* not including control plots.

In locating plots within the study areas, the principal forest types recognized were: Pine Slope or Ridge; Hardwood Slope; Hardwood Bottom-land; Swamp; Ledge; and Old-Field. Consideration was given also to site factors, such as slope, aspect and elevation, the latter ranging from 600 to 1600 feet above sea level. Moisture and soil conditions were variable, as indicated by the types represented. The soil of the localities in which the study areas were located is in general a light sandy loam, underlaid by rock of a granitic character. This, on the whole, seems to favor the development of Ribes rotundifolium more than

that of R. cynosbati which appears to reach its best development on the heavier clay soils or on limestone outcrops. Thus it is that the former species is more strongly represented in these studies, both in number and size of bushes.

In this connection, enumeration of the Ribes used for study, based on size and age, may be of interest. Age was determined when possible by a count of the annual rings on a cross section through the crown or main root. This record is incomplete owing to the difficulty of obtaining sections in which the rings could be distinguished in the field under a hand lens. Age determinations were successful in the case of 417 Ribes; the oldest plant thus observed was 28 years of age. A tabulation by five-year age classes is given below:

TABLE II.

Tabulation of Ribes by Age Classes.

<u>Age Class</u>	<u>No. Ribes.</u>
0 - 5	140
6 - 10	181
11 - 15	63
16 - 20	22
Over 20	11
Not determined	163
Total	580

Size of the Ribes was estimated by "live-stem" classes, using the classes established for checking eradication work in the state. These classes, based on the total linear length in feet, of the living aerial stems on the plant, are shown below, with the number of Ribes of each species used in the study:

TABLE III.

Tabulation of Ribes by Live-Stem Classes.

<u>Live-Stem Class</u>	<u>No. Ribes</u>		
	<u>R. rotundifolium</u>	<u>R. cynosbati</u>	<u>Total</u>
1	50	40	90
2½	48	23	71
5	61	14	75
10	94	9	103
25	113	3	116
50	45	3	48
75	26	0	26
100	16	0	16
100 plus	35	0	35
Total	488	92	580



### Field Methods.

In testing the ability of Ribes to sprout from the roots, the essential thing is, of course, to make sure that all of the so-called "crown" has been removed. Thus, Regan, in one of his experiments, cited above (9), states simply that the cut was made "well below the crown," in which case no sprouting occurred. On account, however, of the prevailing impression that sprouting might take place from points on the root below where it joined the crown, an attempt was made in the New York experiments to determine as accurately as possible how far down (i.e., below the junction with the crown), the roots might retain their ability to sprout.

On the basis of the above considerations, a system of treatment was worked out as follows: Each plot or group of Ribes selected for treatment was made to comprise a "pruning series." In this series the roots of one or more bushes would be cut directly below the point of junction with the crown; in the next set of bushes the roots would be cut at one inch below the junction, the next at two inches, and so on up to six inches. On plots where the Ribes were unusually large, roots would sometimes be cut at nine and twelve inches below the crown. In any one bush, of course, all the root cuts were made equidistant from the crown.

In order to reach the point of cutting, it was necessary to dig away the earth from around the base of the bushes and in some cases to loosen the bush by inserting a "pinch bar" under the base. The cutting was done with ordinary pruning shears.

The above process differs in several essential particulars from that of pulling up the Ribes in practical eradication work. When a man working on a Ribes-eradication crew starts to pull up a currant or gooseberry bush he will, if he is following instructions, get a grip with one hand under the "crown" of the bush so that the principal strain of the pulling comes on the roots below where they join the crown. The roots being throughout most of their length exceedingly tough, will commonly remain attached to the crown, breaking off in the ground if at all, only at the distal end where the root has become small and tender. In those cases, however, where there exists a large crown with many roots, or where too great a pull has been exerted on the top of the bush, some of the roots may be broken off at the basal end, or rather there occurs a break in the "crown" structure, part being pulled out with the canes and part being left attached to the end of the root; sometimes only a small fragment of the crown remains so attached, and it is from the under side of such fragments that new buds commonly develop, giving the impression of sprouting from the end of the root. An efficient eradication worker usually takes pains to go back after removing the main bush and pull out individual roots which may have become broken off as described. But some of these get overlooked occasionally, and enough have been overlooked and have sprouted, in the past, to have given rise to the tradition of "root sprouting."

When a cut is made through the roots as in the experimental treatment, the possibilities of any crown portions remaining on the end of the roots is largely eliminated. Were it possible for sprouting to take place from individual roots, however, the chances for so doing would seem to be greater under this treatment, since here there is less disturbance of the root system due to breaking off of root-ends, tearing away of capillary rootlets, etc. It is also true that under these conditions less of the root becomes exposed to the air and the direct action of the sunlight than in the case of a root left behind after an attempt to pull up the bush. It may be assumed then, that under the conditions of the experiment, the chances for sprouting to take place were equally if not more favorable than under conditions of actual eradication work.

In each of the "pruning series" described above, the root-ends remaining from approximately half the Ribes were left exposed, and in the remainder were covered with about two inches of earth.

At the time the bush was treated, data were taken as to its size, age, number of stems, condition of thrift and situation.

The number of Ribes pruned at the various distances below the crown, and the number of cases in which the remaining root-ends were left exposed, or covered, respectively, are shown in Table IV.

TABLE IV.

Showing Number of Ribes Pruned at Various Distances below the Crown.

Distance Below Crown at which Roots were Cut.	No. Ribes Treated		Total
	Root-Ends Exposed.	Root-Ends Covered.	
At junction	42	24	66
1 inch	74	77	151
2 inches	58	57	115
3 "	61	51	112
4 "	23	21	44
5 "	16	13	29
6 "	22	32	54
9 "	3	2	5
12 "	3	1	4
Total	302	278	580

It will be noticed in the above table that the cases in which the roots were pruned farther back than three inches are relatively few. This is due to the fact that during the second season (1925), no cutting was done at any greater distance, since it appeared that no additional data would be gained by so doing.



In order to make a check on the method of pruning the Ribes and to thereby bring out clearly whatever difference might exist between sprouting from root and from "crown," a set of control plots was established. These plots were laid out in 1925 and were located on the Goff area (Table I) where much of the work was concentrated during the 1925 season. This area was laid out with definite boundaries and subdivided in such a way that control plots, in which all or part of the "crown" was left attached to the roots, could be established adjacent to plots in which only the roots were left, as described previously. Thus conditions on the original and on the control plots were approximately the same.

On the control plots there were a total of 156 Ribes of which 142 were Ribes rotundifolium and 14 were R. cynosbati. On each control plot, three different methods of treatment were used: (a) only the canes of the bush were removed, leaving the entire "crown" undisturbed, (b) the "crown" was cut through horizontally, leaving the lower portion with roots attached, (c) the crown was cut through vertically so as to separate the root-ends, leaving a small fragment of "crown" attached to each. The number of Ribes treated under (b) was so small, and the results differed so slightly from those treated under (c), that the data for these two classes of treatment have been combined in the tabulation. (Table VII.)

In addition to the Ribes on the control plots, five bushes on the original plots were found, where a piece of the crown had been mistaken for a root and left in the ground. These cases were picked up after sprouts had commenced to develop, and were identified as portions of "crown" by tracing their course farther back into the ground, when they were seen to be pieces of old buried stems. These errors in technique, which are not included in any of the tabulated data, are mentioned here simply to emphasize the close resemblance to roots which underground stems may occasionally bear. There may, of course, have been other cases of this sort which were not identified simply because sprouting did not take place. The general trend of the results, however, indicates that such errors must necessarily have been few in number.

#### Tabulation and Discussion of Results.

Preliminary observations on the study plots were commenced in 1924 and continued in 1925. Final observations, on which the tabulations are based, were completed in 1926 on all but one plot, where they were not completed until 1927. In this work of examination, the writer was assisted in 1926 by Dr. W. E. Maneval, and in 1927 by Mr. G. H. Hepting.

By the summer of 1925 it was noted that in the case of the smaller bushes, all traces of the root-ends had disappeared, and by 1926 root-ends were to be found at the site of only 187 bushes, or 32% of the total number treated. In practically all such cases the diameter of the remaining root-ends was one-quarter inch or more.

With regard to the longevity of the roots after the removal of the



top of the bush, it was found that a number of those treated in 1925 were still alive in 1926. It was noticed, furthermore, that the distal portions remained alive for some time after the exposed stubs appeared completely dead. An instance of this condition was furnished by a root from one of the large *Ribes* on the Paradox area. This bush was treated on June 24, 1924, and on June 19, 1926, although the upper portion of the root was entirely dead, about six inches of the distal end was found to be still in living condition.

Where the "crown" had been entirely removed, no sprouting occurred except in a single case. This case is sufficiently outstanding to deserve further mention here. The original plant was a *Ribes rotundifolium* ten years of age, three feet high and with about fifty feet of live stem. It grew on a ledge with northeasterly exposure at about 1000 feet elevation, on a spur of Prospect Mountain (Table I), directly back of Lake George Village. The plot was partially shaded by a scrub growth of sumac, red oak, hickory and red cedar. There were two main roots on the bush; these were cut through at three inches below the "crown" and the root-ends covered. At the time the bush was treated (April 25, 1925) the ground was quite moist, as there had been snow on the ground until the morning of the 23rd. The weather during the week following treatment was, however, warm and dry.

When the root-ends were again examined (July 13, 1926), they had become partly uncovered. One was dead, but the other bore three 1925 shoots from a point one-quarter inch below where it had been cut. The largest of these shoots measured 1.14 feet in length, of which .52 feet was growth made in 1925. The total live stem of the shoots, including two laterals on the largest shoot, was 3.22 feet. No sprouts developed from the roots of the eighteen other *Ribes* on this plot, although they were similar in size and vigor, and were treated at the same time, under similar conditions. This fact, together with the complete absence of sprouting on the other plots where the *Ribes* "crowns" were entirely removed seems to indicate that even under favorable conditions, sprouting from the roots in *Ribes* is a rare occurrence.

Where all or part of the "crown" was left, a quite different set of results was obtained. The tables shown below bring out clearly the contrast in outcome following the different methods of treatment. Table V shows the total number of *Ribes* treated in the course of the study, with the number and percentage of cases where sprouting occurred. In Table VI is given a detailed tabulation, by plots, of the results on the Goff area; in each set of plots compared, conditions in the two plots were approximately the same. The first set (I B and I A) were located on the top of a ledge, where cover conditions were relatively open; plots I E and I D were part way down the ledge; and Plots III A, B and II F were below the ledge, the latter under a dense cover of hardwood forest, the former under a more open stand of pine and hardwood on higher ground.

In Tables V, VI and VII, no attempt has been made to segregate the data on the basis of species, since no difference was observed in the behavior of the two species under treatment.



TABLE V: Comparison of Sprouting Where "Crown" Was Removed and Where All or Portions of The "Crown" Were Left.

Total No. Ribes Treated: 736		
	Crown removed	Crown Left
No. Ribes treated.....	580.....	156
No. Cases of Sprouting.....	1.....	106
% Cases of Sprouting.....	0.2.....	67.9

TABLE VI: Tabulation by Plots or Results of the Goff Area, Year Following Treatment.

Treatment	Plot Nos.	Area of Plots (acres)	Av. Size of Ribes (Ft. Live Stem)	No. Ribes Treated	No. Cases Sprouting	Percent Sprouting	Total No. Shoots	Feet of Live Stem Produced
Entire crown removed	IB	.18	14	34	0	----	---	----
" " not "	IA	.28	18	75	56	74.7	415	177.6
Entire crown removed	IE	.25	25	24	0	----	---	----
" " not "	ID	.40	14	51	35	68.6	288	167.7
Entire crown removed	III A,B	.38	13	25	0	----	---	----
" " not "	II F	.40	1 1/2	30	15	50.0	22	3.5
Entire crown removed	Total	.81	17	83	0	----	---	----
" " not "	"	1.08	13 1/2	156	106	67.9	725	348.8

It will be noted from Table VI that in the heavily shaded plot (IIF) there was a considerable decrease in the percentage of cases where sprouting took place, and a very marked decrease in the amount of resulting sprout growth. The relatively small size of the original Ribes on this plot was undoubtedly a factor in this result.

It has been previously stated that on the control plots, the entire "crown" was left in some cases, while in others only the lower half, or sometimes only fragments, were left attached to the roots. The work on these plots was done in August and September 1925, and the plots were examined the last week in June 1926.

Table VII shows the amount of sprouting which had taken place at that time where the entire "crown" had been left, in comparison to the results where only portions were left. As might be expected, the live stem produced, where the entire "crown" was left, greatly exceeded that from the fragments or lower portions of "crown," both in the amount of stem per sprouting bush and in percentage of replacement of the original live stem. It is worth noting, however, that the average length of shoot produced in each case did not differ materially, the maximum individual shoot growth having, in fact originated from a small fragment of "crown." The greater amount of live stem from the bushes where the entire "crown" was left, was due rather to the greater number of shoots produced.

TABLE VII: Comparison of Sprout Growth on Control Plots, (a) Where Entire "Crown" Was Left, with (b) Cases Where Only Fragments or the Lower Portions Were Left.\* Ribes Treated 1925, Examined June 26-27, 1926.

	Entire Crown left	Fragments or Lower Portions left	Totals and Averages for all Ribes
No. Ribes treated.....	84.....	72.....	156
" Cases of sprouting.....	66.....	40.....	106
% " " " .....	78.6.....	55.6.....	67.9
Ft. live stem (estim.), original Ribes.....	1133.....	986.....	2119
" " " from sprouting.....	276.0 .....	72.8.....	348.8
Approx. % live stem replacement#.....	24.....	7.....	16
Av. Ft. live stem per sprouting bush.....	4.2.....	1.8.....	3.3
Max. " " " " " " .....	21.6.....	7.7.....	21.6
Total No. shoots produced by sprouting.....	561.....	164.....	725
Av. " " per sprouting bush.....	8.5.....	4.1.....	6.8
Max. " " " " " " .....	45.....	24.....	45
Av. shoot length (in feet).....	.49.....	.44.....	.48
Max. " " " " " " .....	1.42.....	1.54.....	1.54
# Based on total live stem originally present on plots.			

In reviewing the results obtained in this study with an eye to drawing general conclusions, two points stand out clearly. (1) that there is a well defined and recognizable difference in Ribes between those subterranean parts of the plant which produce sprouts and those which ordinarily do not. (2) That where all underground portions associated with the so-called "crown" are removed, sprouting from the individual roots remaining take place so rarely as to be negligible as a source of Ribes "come-back" after eradication.

#### Summary.

(1) Experiments relative to sprouting habits were carried on in northern New York from 1924 to 1927 with two native species of gooseberry under a variety of natural conditions.

(2) Of the 736 Ribes treated in the course of the study, 580 had the entire top and "crown" of the bush removed, leaving in the ground only the individual roots, which otherwise were disturbed as slightly as possible; in the remaining 156 Ribes, all or portions of the "crown" were left attached to the roots.

(3) Where the roots alone were left, sprouts developed only in a single case; this bush grew at a relatively high elevation on a north-easterly exposure, and was treated early in the spring while the ground was thoroughly moist.

\* See discussion of methods, p. 99.



(4) Where any part of the Ribes "crown" was left, sprouts developed in 68% of the cases; the number of shoots produced varied directly with the amount of crown left, but the average length of shoot was not affected materially by this factor.

(5) There was apparently no difference in the reaction of the two species treated.

(6) Sprouting took place from crowns or fragments of crown both in the open and under dense forest cover, but with a lower percentage of sprouting and less vigorous growth of sprouts on the heavily shaded plots. This result was considered as due in part to the smaller size of the original Ribes in the latter situation.

#### Literature Cited.

- (1) Brierly, Philip. Notes on Plots Established by W. S. Cooper, Ms. Rept. 1921. (On file, Office of Blister-Rust Control.)
- (2) Card, F. W. Bush Fruits. Macmillan, 1911.
- (3) Cheyney, E. G. A Study of Ribes in Their Relation to White-Pine Blister-Rust Control. Science N.S. Vol. LII, No. 1345, Oct. 8, 1920. Also Ms. Rept. 1921.
- (4) Darrow, George M. and S. B. Detwiler. Currants and Gooseberries. Their Culture and Relation to White-Pine Blister Rust. U. S. D. A. Farmer's Bull. 1398, 1924, Revised 1929.
- (5) Detwiler, S. B. Status of White Pine Blister Rust Control in 1918. In Rept. on White Pine Blister Rust Control, 1918. Bull. No. 2 Am. Plant Pest Committee.
- (6) \_\_\_\_\_ White Pine Blister Rust Control. In Rept. on White Pine Blister Rust Control, 1920. Bull. No. 6, Am. Plant Pest Control Committee.
- (7) Endersbee, W. J. A Study of Ribes Eradication in the Control of Blister Rust. In Rept. Proc. 11th. Ann. Blister Rust Conference, Springfield, Mass., 1925.
- (8) Pierce, R. G. A Contribution to the Ecology of Ribes hirtellum. Blister Rust News, Vol. 9, No. 8, August, 1925.
- (9) Regan, W. S. 1. Tests of Chemicals for Destroying Ribes. 2. Sprouting and Germination Tests. Ms. Progress Rept. 1920. (On file, Office of Blister Rust Control.)

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- Plate IV:           Photograph Showing Ribes "Crowns" Connected by Old  
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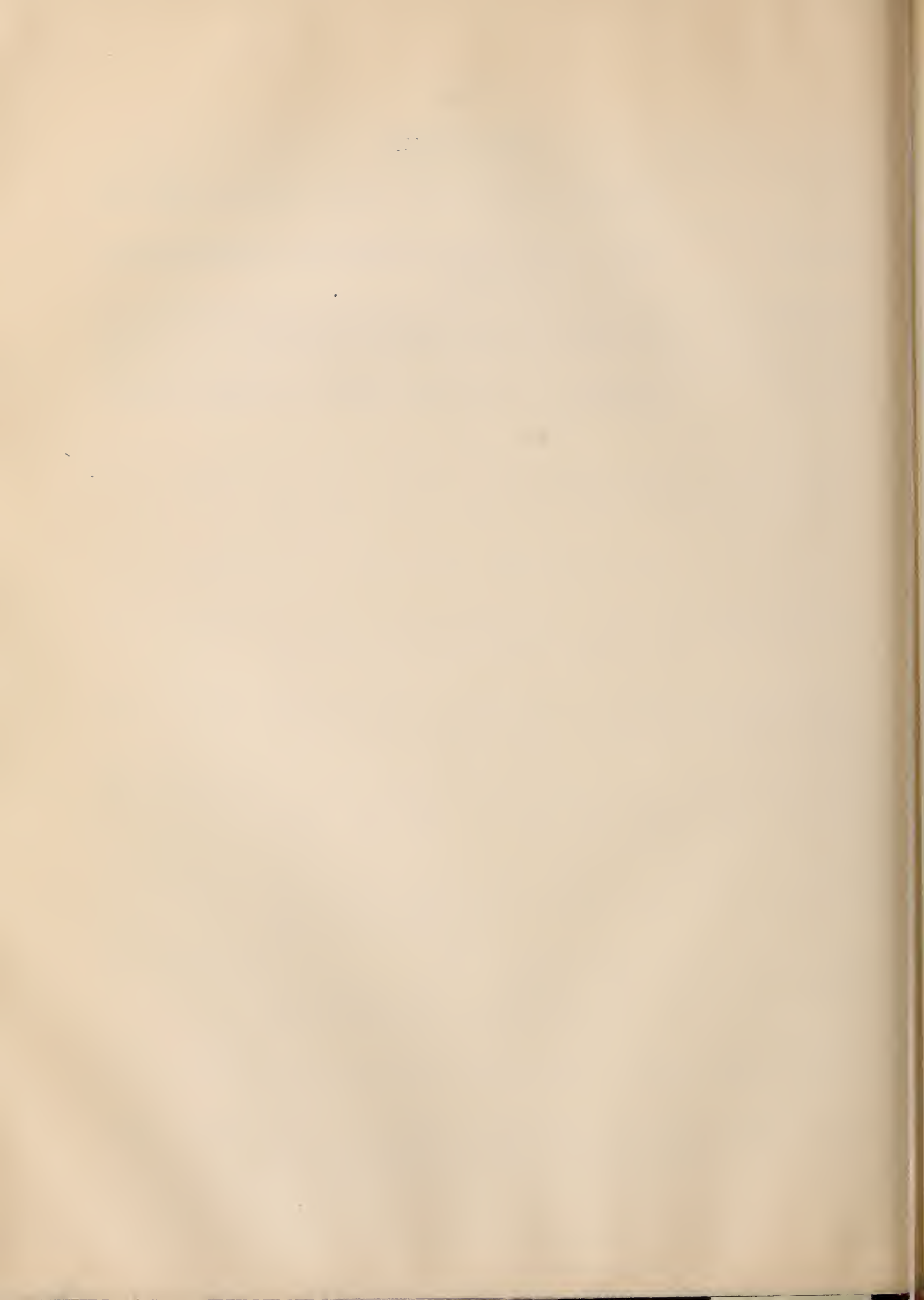




Photo by York and Littlefield, 1928.

#### PLATE I

Typical "crown" of the small smooth-fruited gooseberry (*Ribes rotundifolium* Michx.) showing stubs of aerial shoots, or "canes", of various ages, and also root-stubs (in foreground). Note the pith where cross-sections of stems are exposed to view.

Position of dormant buds shown by pins.







Fig. 1



Fig. 2

E.W.L.

## PLATE II

Diagrammatic representation of cross section through Ribes stem (Fig. 1) and Ribes root (Fig. 2), showing presence of conspicuous dark core of pith in stem and absence of same in root.









Photo by Pierce and Brygger, 1927.

Used by courtesy of the Office of Blister-Rust Control.

### PLATE III

Prostrate stem of cultivated red currant (Ribes sativum (Rohbch.) Syme) which has taken root and sent up three erect shoots. This stem had become broken off from the main bush, but its previous connection is indicated by the stub remaining, on the left.







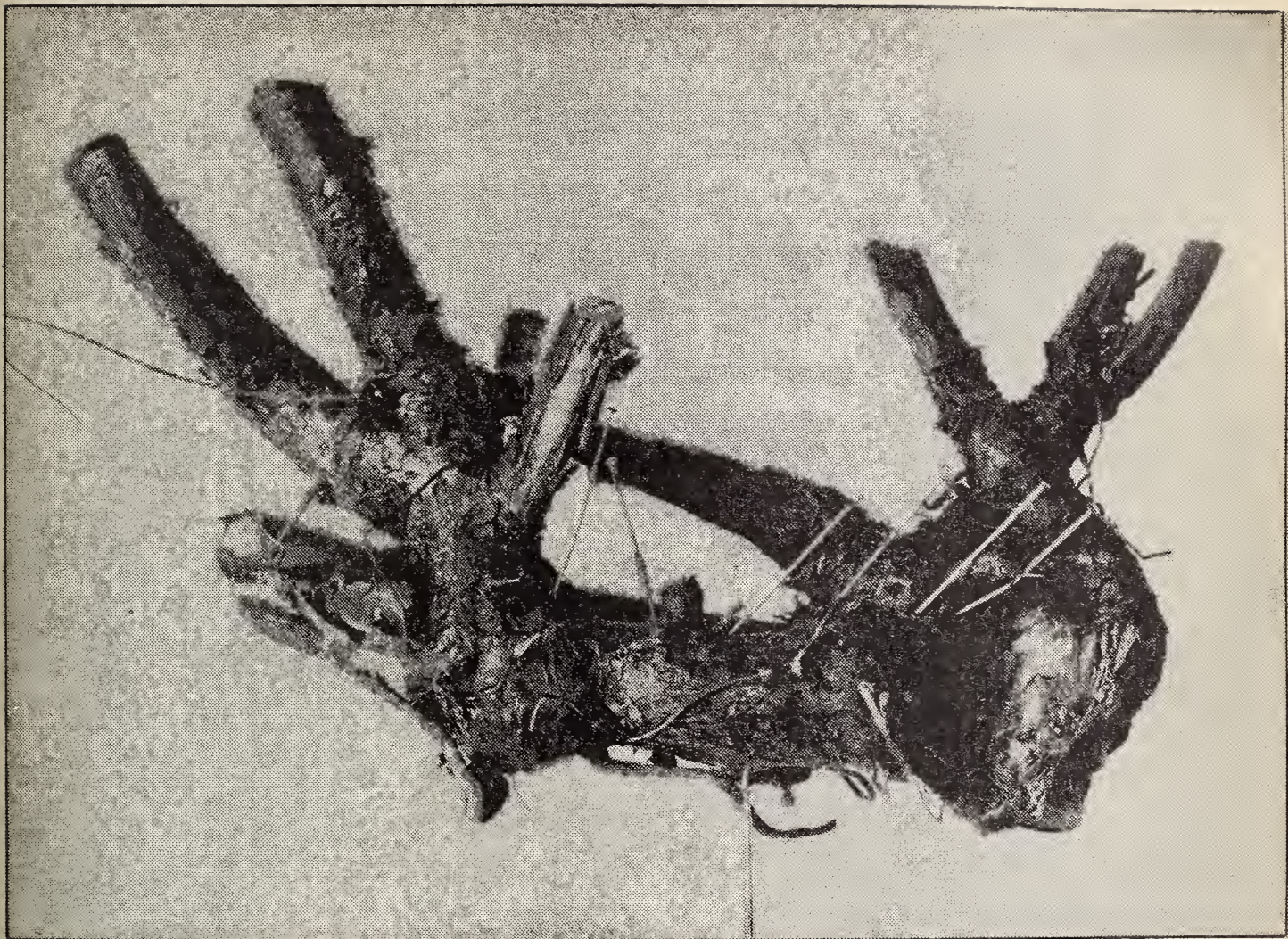


Photo by York and Littlefield, 1928.

#### PLATE IV

Showing remains of parent gooseberry plant (right), and secondary plant (left), connected by layering stem, which has taken on a root-like appearance. Buds denoted by pins.

When this specimen was collected, the remains of the old plant were entirely covered up by duff and litter. After the decay of these parts, the portion of layering stem would quite likely be mistaken for a root.



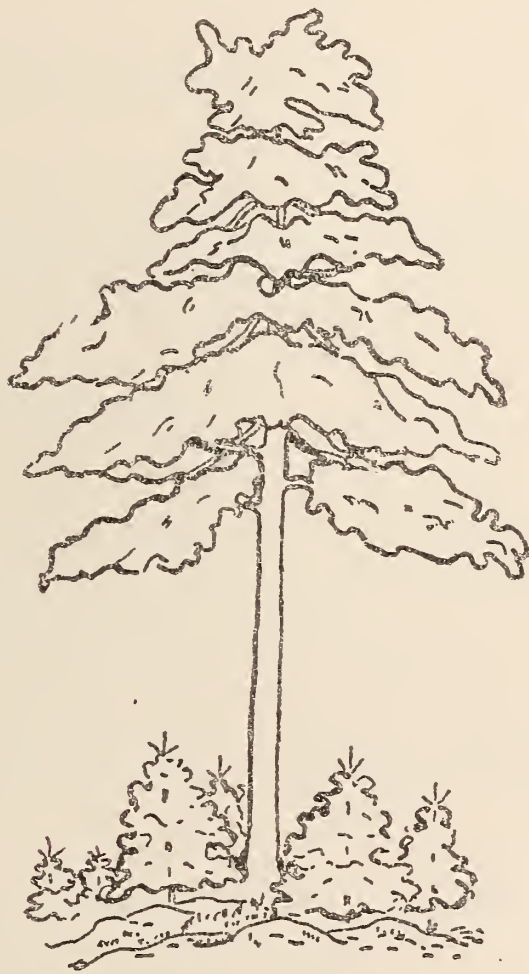








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UNITED STATES DEPARTMENT OF AGRICULTURE  
BUREAU OF PLANT INDUSTRY  
WASHINGTON, D. C.

T H E B L I S T E R R U S T N E W S .

Issued by the Office of Blister-Rust Control  
and the Cooperating States.

VOL. 14, No. 4

April, 1930

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WHITE PINE WILL REPLACE BLIGHTED CHESTNUT

That planting of pine followed by systematic weeding will speed up the return to productivity of blight-killed chestnut lands is indicated by studies made by the Northeastern Forest Experiment Station of the United States Department of Agriculture

Since 1924 the northeastern station has maintained three experimental plots on typical blight-killed chestnut lands in Massachusetts. Two of the plots are located in a plantation of northern white pine which was established when the dead chestnut was removed. The blight-killed chestnut trees have not been removed from the third plot, and natural replacement has resulted in a stand less than 50 per cent of which now has any commercial value. In the case of the planted plots, however, the stands are composed entirely of the one valuable species - northern white pine.

Periodical weedings of competing hardwood sprouts were made on one of the planted plots and resulted in more rapid diameter and height growth and a larger percentage of trees in the dominant classes. Where such weedings are undertaken, the Northeastern Experiment Station recommends that the first one be of a broadcast nature (all hardwood sprouts cut back) and that subsequent weedings be confined to releasing individual pines.

U. S. D. A. PRESS RELEASE

DOORE SUCCEEDS ENDERSBEE IN BERKSHIRE COUNTY, MASSACHUSETTS

Pursuant with the general policy of retrenchment rather than expansion, and the ultimate consolidation of the blister-rust control districts in Massachusetts, into a minimum number of administrative units, Agent Doore has been assigned to take over the control program in the Berkshire County District (IX). In addition to the control work in the Berkshires, Agent Doore will supervise the work already planned for his own district (VII) in Hampshire and Franklin Counties. In order to properly handle the work in the combined area, headquarters will probably be maintained in the city of Northampton.

April 1, 1930.

C. C. Perry, Mass.



CURRENT-RUST CONTROL IN NOVA SCOTIA

Brief details are given of experiments which were carried out in Nova Scotia on the control of the currant rust (Cronartium ribicola) on black currants. The results showed that defoliation of this host may be prevented by four applications of sulphur dust, care being taken that the fungicide should reach the under side of the leaves. Lime-sulphur spray did not give as satisfactory control of the rust. Traces of the rust were, however, still present on the treated bushes and it is doubtful, therefore, whether such treatment of the black currants would afford sufficient protection to white pines against blister rust in districts where these trees are grown.

J. F. Hockey.

(Extract from "The Review of Applied Mycology", September, 1929.)

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FRYEBURG'S TOWN FOREST OF WHITE PINE SUPPLIES  
FUNDS FOR NEW SCHOOL.

In 1928 it became necessary for the town of Fryeburg, Maine, to build an addition to its central school building. The increase in enrollment of pupils had rendered it obligatory on the part of the town to provide more capacity.

The proposed enlargement was figured to cost about \$7,500.00. The usual method of financing school building is for the municipality to lay a heavy property tax or else issue bonds on long or short terms. In the instant case neither of these methods was followed. What did the town do? The town simply went to its own forest of good white pine and cut and sold enough lumber to finance the job. When the contract was completed the contractor was paid and the matter was concluded.

The exact cost of the renovations was \$7,120.10. Every cent of this money went into the building. There were no overhead charges for printing bonds, no commissions, no attorney's fees. The town simply did its business, paid for what it did and had the results to use as needed. No recourse to taxation, no bond sales, no delayed payments and no overhead.

The town still owns enough standing timber to build another school-house. This timber has been conserved and lumbered intelligently. Such, we hope, will be the history of the new town forest now in the process of development.

Chas. A. Snow,  
Superintendent of Schools.

(Extract from "Town Forest News", Fryeburg, Maine, March, 1930.)

RITTER OF MINNESOTA APPEARS IN THE UNITED STATES DAILY

In the issue of Tuesday, March 11, 1930, of the United States Daily, which presents the official news of the Federal and State Governments, there is an article by Mr. L. B. Ritter, Minnesota State Leader. It is entitled "Deadly Circle of Plant Infection - Blister Rust Jumps From Tree to Shrub and Back".

HISTORICAL NOTE ON THE BLISTER RUST

In the recently published circular entitled "White-Pine Blister Rust in New Jersey" by Mr. Edgar G. Rex\*, there is an interesting historical episode concerning the blister rust which has had a distinct bearing on the introduction of this disease into this country. The following is quoted from the New Jersey Circular:

"White-pine blister rust had been considered a serious nursery bed disease in Europe since 1903. However, the very inadequate inspection system of European nurseries, coupled with the fact that the Congress of the United States had thus far not enacted any legislation restricting plant importations, enabled many infected white pine seedlings to find their way into this country.

"During the years of 1908 and 1909 exceptionally heavy importations of white pine seedlings were made from Europe. In the spring of 1908, one nursery located at Halstenbek, Germany, shipped into this country, 2,500,000, two to three-year old white pine seedlings, which were distributed throughout the New England States, New York, New Jersey, Ohio and Minnesota.

"Dr. J. B. Smith, then New Jersey State Entomologist, reported (Annual Report 1909-1910, to the State Board of Agriculture) the diseased condition of white pine seedlings imported from Europe and planted in New Jersey. In 1910, Dr. Smith sailed for Europe, where he visited many nurseries in Belgium, Holland and Germany. He considered the plant inspection system of Holland quite satisfactory, but those of Germany and Belgium positively unreliable. He visited the nursery at Halstenbek, Germany, which had in the few years previous supplied many white pine seedlings for New Jersey. He found blister rust generally prevalent throughout this nursery. The attention of the management was called to the fact that rust infected seedlings had been exported from that nursery to the United States. This accusation was stoutly denied. However, Dr. Smith shrewdly interviewed the forester of the Province in which Halstenbek is located, by whom he was informed that this particular nursery had been warned against selling any of their white pine seedlings within the Province because of the rust infection which they carried. Notwithstanding this local restriction, no efforts were made to prevent the sale of these infected seedlings elsewhere."

\* For citation or publication see page 129.

R. G. P.

Note: Dr. Spaulding in Tech. Bul. 87 of the Agr. Dept., 1929, "White Pine Blister Rust: A Comparison of European with North American Conditions", corroborates this data concerning infection conditions at the Halstenbek Nursery.



DRIVE OPENS TO SAVE MINNESOTA'S WHITE PINE FROM RUST DISEASE.

Campaign Outlined at Meeting of Scientists Called by Forester.

An aggressive campaign is being launched to protect Minnesota's stands of white pine from destruction by blister rust, a parasitic fungous disease introduced from Europe several years ago and now established in twelve counties of this State.

Foresters, plant pathologists, horticulturists and others considered the problem at a conference at University Farm, Monday (March 3), called by Grover M. Conzet, State Commissioner of Forestry and Fire Prevention.

Campaign Outlined.

The consensus was expressed in a resolution asking "that an adequate appropriation be requested from the State Legislature for cooperation with Federal and local State agencies in the control of white-pine blister rust.

"That the State Legislature be requested to enact an enabling law which will permit the counties to appropriate local funds for the control of white-pine blister rust.

"That adequate studies be undertaken of genetics and epidemiology as related to the control of white-pine blister rust.

"That an advisory committee to the Commissioner of Forestry and Fire Prevention, consisting of five members, one from the office of the Commissioner of Forestry and Fire Prevention, one from the State Department of Agriculture and three members from the Department of Agriculture of the University of Minnesota be appointed by the respective heads of these agencies for the purpose of organizing, correlating and activating educational work on the control of white-pine blister rust in Minnesota. The State blister-rust control leader shall act as secretary of this committee".

It is pointed out that this disease has caused severe damage in many areas of white pine, one of Minnesota's chief forest trees.

This disease cannot spread directly from pine to pine. It spreads only from pine to currants and gooseberries and then back to pine. Therefore, the destruction of all currants and gooseberries within 900 feet and all cultivated black currants within one mile of white pine controls the spread of the disease and prevents damage to white pine.

The common cultivated black currant is an exception because it is highly susceptible to the disease. It is the chief agency in the long distance spread and the establishment of new centers of infection. It is capable of infecting pine within a radius of one mile.

Bushes to be Eradicated.

Plans for the coming season include the application of local control measures in cooperation with pine owners in Chisago, Isanti, Kanabec and

St. Louis Counties and with the owners of nurseries producing the white pine. At Interstate Park arrangements have been made for the eradication of currants and gooseberries to protect the beautiful white pine.

In addition, scouting will be done to determine the limits of the spread of the disease in the State, while educational work will be undertaken to familiarize owners of white pine with the disease and the simple methods for its control.

(Clipping from the "St. Paul Dispatch", March 5, 1930.)

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#### MAINE TOWNS VOTE FUNDS FOR BLISTER-RUST CONTROL

Mr. W. O. Frost, State Leader in Maine, in letter of April 3rd states that 56 towns in Maine have appropriated \$9,862.00 for carrying on blister-rust control work this season in cooperation with the State and Federal Government. The largest appropriations were made by Bar Harbor and Mt. Desert, both summer resort towns, their combined appropriation being \$2,750.00. Appropriations in other towns varied from \$50 to \$350.

Mr. Frost writes: "We were greatly surprised to get cooperation from a certain town this year which has a population of 176, polls of but 59, an estate value of \$81,295.00 and an acreage of but 4,100 acres. In fact, the town is an island at the mouth of the Kennebec River."

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#### TIN PAMPHLET HOLDERS FOR BLISTER-RUST LEAFLET MADE UP FOR MASS.

We have recently made up for Mr. C. C. Perry of Massachusetts, and his agents, a number of red tin pamphlet holders. These holders, which were designed by Mr. Doore of Massachusetts, are just the right size to hold about 165 copies of the small 4-page leaflet "Protect White Pine from Blister Rust". With the words "Take One" painted at the top, these holders are a very satisfactory means of distributing these small leaflets at fairs and meetings. Samples of the holders have already been sent to several of the State Leaders. If any of the agents desire a number of these holders, we will be glad to have some made up for them.

R. G. Pierce.

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#### AN UNEXPECTED REUNION

Mr. J. E. Riley, State Leader in Connecticut, while visiting the Washington Office March 28, was introduced to Mr. H. N. Putnam of the Western Office. To their mutual surprise and pleasure, they recognized each other as buddies in the World War, both having seen service in France in Company B, 10th Engineers. C. H. Johnson, State Leader in Montana, also served in the same Company with "Put" and Riley.

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BLISTER-RUST DEMONSTRATION AT ANNUAL MEETING OF  
MICHIGAN ACADEMY OF SCIENCE.

Mr. D. J. Stouffer, State Leader in Michigan, writing under date of March 24, says:

Had a very interesting time at Ann Arbor attending the annual meeting of the Michigan Academy of Science on March 20th to 22nd. I set up the demonstration early Thursday forenoon and spent a good deal of time with it on Thursday. Reception was held in the Museum Thursday evening for members of the Academy and friends at which time the different exhibits were viewed by those present. The blister-rust display attracted considerable attention and I had some interesting talks with many of the people present. The blister-rust demonstration was a part of the general forestry exhibit which occupied one entire booth.

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PINUS STROBUS IN MONTANA

Back in 1909, Sylvanite, located in the Kootenai country on the Yaak River, was a prosperous mining town. The founders hailed from the Lake States, principally Michigan, and were familiar with the part that white pine had played in the building of towns in that region.

With the aid of a Michigan forester white-pine seedlings (Pinus strobus) were shipped in and planted. The old timers undoubtedly visualized a day far in the future when the lumber from this historic species would again play an important role in the upbuilding of this new region. Who knows but what their dreams may materilize?

The old town of Sylvanite has disappeared and is almost forgotten but the pines live on and are holding their ground.

The following information and figures were taken from the Forest Service planting records: 1,210 - 4-year-old P. strobus were planted over an area of 3.7 acres. 75 per cent of the original number were living in the fall. One year later the figure was 70 per cent. In 1919, 61 per cent of the stand were alive. These records compare favorably with the survival records of western white pine. Many of the trees are now 30 to 35 feet in height and one measured 5½ inches at breast height. The trees (P. strobus) have made double the growth of the native white pine of about the same age intermingled with them.

In 1928, H. N. Putnam and writer examined the plantation and found the eastern white pine in a very healthy condition and towering above their western rivals.

C. H. Johnson.

(Extract from Western Blister Rust News Letter, February 15, 1930.)

EUROPEAN BLACK-CURRENT ELIMINATION PROJECT IN CONNECTICUT

A two-page news release was issued on April 7, from the Connecticut Agricultural Experiment Station, entitled "Station Seeks to Eradicate Outlaw Black Currant Bush". This well written article should do much towards preparing the public for the survey and eradication work which will be undertaken against the black currant.

A large poster, 12 by 17 inches has also been put out by the Experiment Station. This is entitled "Warning - Possession of Black Currants Illegal \*\*\*". (A copy of this can probably be secured by other State Leaders from Mr. J. E. Riley, c/o The Connecticut Agricultural Experiment Station, New Haven.)

Of particular interest to blister-rust employees is the description given in the news release of the black currant. This states that, "Owners may easily identify the species that is condemned by statute. It differs from the cultivated American black currant in having resin spots, which are amber-colored, on the under side of the leaves only. Also its twigs are round and smooth, rather than ridged."

Mr. Riley, State Leader in Connecticut, writes as follows regarding this campaign against black currant: "We are starting our European black-currant elimination project. We plan to work only one township this spring but later on in the summer we will divert more men from other projects to this elimination work. The State will be posted incidental to other work".

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ENDERSBEE BELIEVES IN PLANTING PINE

A recent letter from Mr. W. J. (Bill) Endersbee, formerly agent in Berkshire County, Massachusetts, gives some information concerning his tree-planting activities. As noted in the Blister Rust News of previous years, Bill has for a number of years been planting white pine on his property. He writes on April 3rd as follows:

"In reply to your question as to the number of trees I have planted on my property (in New York State), the total this year will reach 90,000. Just recently, I was wondering if anyone else in the gang had planted (on their own property) more trees than I. About one-half of the above are white pines, and the other half is made up of about every variety of soft woods."



A NEW ENGLAND NURSERY CAPITALIZES ITS FREEDOM FROM BLISTER RUST.

Announcement

=====

We have recently been granted a permit from the U. S. Dept. of Agriculture, Plant Quarantine and Control Administration, to ship white pine to points outside of New England. This is the first permit of this kind to be given to any commercial nursery in New England.

We are the only commercial nursery in New England whose stock is certified by the United States Department of Agriculture to be free from Blister Rust.

In order for us to obtain this permit it was necessary to destroy all currant or gooseberry bushes from a wide area surrounding the nursery previous to planting the seed from which the trees we are offering were grown.

We can now ship white pine into the following States: Minnesota, Michigan, Wisconsin, Pennsylvania, New Jersey, New York and the New England States.

Government Certified Blister-Rust-free trees.

Edit:- I have been informed by the Plant Quarantine and Control Administration (March 26) that there is one commercial nursery in New York State that has also been granted a Federal permit to ship white pines into all other eastern infected States. The Vermont State Forest Nursery has also been granted a similar Federal permit.

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NURSERYMAN HELPS PROMOTE BLISTER-RUST CONTROL

Mr. Nurseryman was not very anxious to lose his currant and gooseberry bushes. When blister rust was explained to him, however, he agreed to part with them. That was several years ago. Now people are asking him about his pine - and the following has just appeared in his last catalog:

CURRANT AND GOOSEBERRY BUSHES

Have Been Discontinued.

Our blocks of Pine Trees have been protected from Blister Rust by the removal of currant and gooseberry bushes.

J. W. Charlton, N. Y.

COMMENTS ON THE USE OF "REERADICATION".

I read with considerable interest Pierce's item in the March issue of the Blister Rust News regarding the use of the word "reeradication". While it is difficult to get around such a strong argument or authority as is quoted, nevertheless, it seems to me that the term "eradication" is not only a somewhat awkward one, but comes at a rather late day in the progress of our work. We have been in the habit here in New Hampshire in connection with re-covering towns for the second time of terming it a "reexamination or re-checking" project, and perhaps such a term might take the place of your objection to "reeradication".

As a matter of fact, as the future work of making second examinations of pine areas progresses, we shall probably fall back on the advance scout maps and consequently shall confine our work to those areas where crew work was necessary, making only a superficial examination of such lands where Ribes were found to be lacking or only scattering. Consequently such a practice will mean that a great deal of the land which was originally grid-ironed will be only lightly examined and the bulk of the work will be confined to areas where Ribes were pretty well concentrated. We prefer the words "reexamination or rechecking" as it makes, to the average town or individual, the problem appear much more simplified and less costly.

L. E. Newman, N. H.

AECIA OUT EARLY IN MASSACHUSETTS

Agent Brockway seems to have reported the early date on the first appearance of aecia for the 1930 season in Massachusetts. He reports the finding of aecia on a pine in the so-called Swansea infection area in the town of Rehoboth, Bristol County (District IV.)

Agent Clave was a close second, when he reported under date of April 3, that he had noted aecia pushing through the bark of a white pine on the Wilson lot in the town of Princeton, Worcester County (District VI).

The next early record came from Agent Roop, who in company with the State Leader located aecia in one of his 1930 towns, namely, Bolton, in Worcester County (District V). This was on April 8 but there is no doubt that the aecia had been showing for a number of days, at least. In connection with this record, it is of interest to note that the probable infecting Ribes were readily located just a few feet away but that they showed no indication of leafing out. In other words, conditions had been sufficient to start the aecia but not sufficient to start the Ribes leaves.

April 9, 1930

C. C. Perry, Mass.

Edit: While this is pretty early for aecia to appear, there is an earlier date of aecial appearance for Massachusetts in 1929. Mr. E. M. Brockway reported aecia on March 27, 1929, at North Easton, Massachusetts, and Mr. H. G. Strait reported it on March 30, 1929, at the Skokan Reservoir in New York State. In the Western States this record is again beaten. In 1928, the first aeciospores were liberated March 19, about 30 miles east of Vancouver, B. C. The editor would be glad to learn of the earliest date of the appearance of aecia, uredinia and telia in the various States as the seasons roll by.



Sawing off the side branches as high as you can reach from a pine tree three or four inches in diameter is an easy job quickly done. You can reach with the curved blade folding pruning saw to a height of about seven feet from the ground. Branches one-half inch in diameter can be cut off with one stroke of the saw. Such branches sawed from small well-formed pine trees allow the growth of clear lumber, from that point on without defect. A second pruning several years later on the same trees can be accomplished with the aid of a short ladder, or by fastening the saw blade to the end of a pole. Only a few minutes are required to be spent on each tree, and only the best trees on the lot should be selected for pruning.

One third or more of clear lumber will result from pruned trees whose entire yield otherwise would have been based on box board prices.

Another valuable result is perhaps indirectly obtained. Anyone who has expended energy toward the improvement of a woodlot will revisit the lot more often, and with a definite object in view. The truth of this statement is based on the fact that the writer has been the means of procuring over fifty pruning saws for different people throughout his district. Requests for saws came as a result of demonstrating the ease with which pine pruning may be accomplished.

Several woodlot owners whose interest in young pine growth has been sharpened by pruning, have gone ahead to weeding, thinning and even selective logging. Valuable lots of young pine heretofore almost unnoticed have attracted the progressive owners interest. Many who previously thought of the woodlot as a whole, have arrived at the conclusion that there is value in considering the individual tree.

Consideration of a tree as the unit of the forest calls attention to its struggle for existence among other trees, and with insects and disease. The blister-rust disease, often not observed in the casual examination of a woodlot, is easily seen in considering trees separately, and its damage to the lot by the killing of the best trees is appreciated.

The value of the woodlot depends on the quality of its individual trees.

L. C. Swain, New Hampshire.

(Extract from New Hampshire Forests, Vol. VII, No. 1, March, 1930, p. 19)

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#### LIMBER PINE AND BRISTLEcone PINE LISTED AMONG SAW TIMBER

The Forest Service has recently offered for sale a large quantity of pulpwood in the Rio Grande and San Juan National Forests in Colorado. Besides the pulpwood consisting of over a million cords of Englemann and blue spruce, and about a quarter of a million cords of white and alpine fir, there is a quantity of saw timber offered consisting of Douglas fir, western yellow pine, limber pine and bristlecone pine. It will be of interest to readers of the Blister Rust News that these two white pines generally regarded as having little if any commercial value, are in this case of sufficient size to warrant being sold for saw timber.

BLISTER RUST PRESENT IN THE SUGAR-PINE REGION OF OREGON

Mr. L. N. Goodding, State Leader in Oregon, writing for the Western Blister Rust News Letter for November 15, 1929, states that "The outstanding blister rust finds in Oregon during the past summer were those on the Metolius River and those in Curry County. The one on the Metolius found by Partington and Mielke, is our first strike into the sugar pine region with the stage all set."

In letter of March 25, 1930, Mr. Goodding writes: "The blister-rust infection found by Partington and Mielke on October 22, 1929, was on Ribes petiolare in close association with sugar pine; in fact, the infected bushes were within a few rods of pine. On the date infection was found the bushes were 90% defoliated, which precluded finding infection in all places where it may have occurred along the stream. In several places the pines were within a few feet of the R. petiolare bushes. It is almost certain that some infection on pines has taken place, and we will have an excellent opportunity to study its initial development on the pines at this point.

"Across the mountains in the Breitenbush region, the rust has also advanced into sugar pine territory, but we are not certain of associations of pines with infected Ribes as we are in the Metolius region."

SUGAR PINE ON THE METOLIUS RIVER - THE MOST NORTHERN OUTPOST EAST  
OF THE CASCADES

The discovery of sugar pine on the Metolius River is of interest not only to members of the Office of Blister-Rust Control but to other foresters as well. Sudworth in "Forest Trees of the Pacific Slope", published in 1908, states that "the sugar pine crosses the Cascades (from the West) south of Fish Lake and occurs on headwaters of the DesChutes River between Sink Creeks, Walker Range, and Pengra, also on south and east basal slopes of Mt. Mazama". The sugar pine on the Metolius River, which is on the east side of the Cascades, is about 125 miles farther north than that reported by Sudworth.

Mr. Goodding writes on March 25, 1930, as follows: "I first visited the Metolius region in October, 1928, and observed the sugar pine in that section. While it is not the dominant tree, it is abundant and much of it is excellent reproduction. As far as I know it is confined in this immediate region to the south side of the river. It is not, however, confined to the river bottom, but continues to the southward for some distance. In scouting the upper Metolius and the region north of the Sisters and Black Butte, sugar pine was not noted. I realized that these pines were beyond the range of sugar pine as reported by Sudworth, so I got in touch with the Indian Service to learn how far north their forester had observed them. The following is taken from my October, 1928, report to the Spokane office:



'It is also worthy of note that sugar pine is reported by Patrick Gray, Deputy Supervisor of Forests of the Warm Spring Indian Agency, in Sec. 1, T. 10 S., R. 9 E. This is four miles north of the Metolius sugar pine area noted by Goodding.'"

Mr. Goodding and Mr. H. N. Putnam writing on May 1, 1929, gave further information concerning the associates of sugar pine, with particular reference to the species of Ribes found close by.

"The Metolius River (at the point where blister rust was later found by Partington and Mielke. R.G.P.) flows from the mountains into a canyon typical of the streams east of the Cascades. The surrounding country up to the mountain is comparatively level and the descent into the valley abrupt. Sugar pine, yellow pine, and incense cedar, are associated with Douglas fir, and white fir. The following species of Ribes were observed: Ribes cereum abundant in the more open timber and clearings; R. sanguineum apparently rare; R. nevadense seedlings very abundant along two streams (it is possible that this may prove to be R. sanguineum); R. petiolare abundant along the main river and on some side streams entering the river from the south side; R. lacustre rather abundant in swampy places throughout the area; Grossularia inermis observed in three places in some abundance; and G. lobbii rather abundant but more limited in its distribution on the area."

According to the map prepared by Goodding and Putnam, sugar pines were noted in T. 11 S., R. 10 E., in Sections 2, 3, 11, and 13.

Roy G. Pierce.

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#### BLISTER RUST ON SUGAR PINE IN EUROPE

Now that the blister rust is in the sugar-pine region in Oregon, what is the opinion of those qualified to judge relative to the danger from the rust to the sugar pine?

Mr. W. S. Moir\*, who studied the blister-rust situation in Europe in 1919 and 1920 for this Office, writes: "Observations made in Europe upon the susceptibility of sugar pine, western white pine and limber pine to the fungus showed that these trees are as readily attacked and as severely damaged by the white-pine blister rust as is the eastern white pine. \*\*\*.

"The California sugar pine was found diseased in Scotland, France, and Belgium, and is reported from Germany. A most striking example of damage done to a single tree was observed at Murthly, Scotland. An arboretum specimen, 20 years old, with a height of 20 feet, is so heavily attacked on every limb to a height of 8 feet from the ground and so severely constricted on the stem that it is practically worthless. The late Sir Edmund Loder, of Horsa-ham, Sussex, England, stated in correspondence that young sugar pines on his estate were attacked and killed by the rust. The appearance of infected trees in Belgium and France indicates that this species is highly susceptible."

Dr. Perley Spaulding\*\*, writes in 1911, "The blister rust has been found upon Pinus monticola and P. lambertiana, which are five-leaved species and are even more closely related to P. strobus than is P. cembra."

In 1922 Spaulding visited 11 countries in Europe where he studied blister-rust conditions. He sums up his observations in Technical Bulletin No. 87 \*\*\*. Concerning P. lambertiana, he writes, "This species has been distributed sparingly in Europe, where relatively few trees of this species are to be seen. As a rule those seen are infected. However, Tubeuf said that it is rarely grown in Germany and is very susceptible (Moir)."

Spaulding notes that sugar pine has become infected in Belgium at Calmpthout, Groenendael and Tervueren; in England at Horsham; in France at Angers and Nogent-sur-Vernisson; in Germany at Bremen and Grafrath; in Scotland at Murthly; while in North America it has been found in New York State.

\* U.S.D.A Bulletin No. 1186, "White-Pine Blister Rust in Western Europe", published in 1924.

\*\* U.S.D.A., Bureau of Plant Industry, Bulletin No. 206, "The Blister Rust of White Pine".

\*\*\*U.S.D.A. Technical Bulletin No. 87, "White-Pine Blister Rust: A Comparison of European with North American Conditions", Feb., 1929.

R. G. P.

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#### BLISTER-RUST CONTROL AT SOME MAINE TOWN MEETINGS.

Whether a Maine town supports blister-rust control at its town meeting usually depends upon interested pine owners. At one town, which we will call A., it was thought certain that the blister-rust control item would be favored and passed. However, two interested citizens got "cold feet" and a drunken man didn't, the result being that the "wets" won out and blister-rust control failed to pass.

In comparison to the town meeting at A, was the town meeting held at H. A short talk was given on the blister-rust conditions in the town, its history in the State, the methods of its spread, and the amount of damage it was causing. Three interested pine owners then spoke in favor of the town supporting the blister-rust control item. The result in this case was that blister-rust control went over with a bang.

Work this spring in connection with the town meetings convinces me that many of the towns are economizing all along the line - on schools, roads, sidewalks, as well as on an item for the protection of their pine from the rust.

Data by John MacG. White, Me.



# HOW LONG DOES PINUS MONTICOLA HOLD ITS NEEDLES?

The length of time which P. monticola retains its needles is shown in the table given below which was made from a study of 705 trees at Newman Lake, Washington.

No. of Years Needles Retained.	Percentage by Crown Classes			
	Dominant	Intermediate	Suppressed	Total
2	0	0	9	5
3	14	5	15	12
4	53	30	24	30
5	29	46	31	34
6	3	16	17	15
7	1	2	4	3
8	0	1	0	1
	100	100	100	100

This table indicates that P. monticola bears its needles 4 to 5 years on the average but tends to hold them longer if overtopped.

R. E. Myers

(Extract from the Western Blister-Rust News Letter, Feb. 15, 1930.)

- - - -

## FARM LANDS IN WARREN COUNTY, NEW YORK, BEING ABANDONED

While doing woodland type mapping this winter in the western part of Warren County, N. Y., I have often wondered just what that part of the county would be like at the end of the next 25 years. Many parts of this section were prosperous 50 years ago and supported many families, but now roads along which there were numerous occupied houses are wholly or in part deserted and many of the old home sites are only marked by an old orchard, cellar hole or some old shrubs.

In some of these localities a number of old farms have been bought up by city people and are used by them for summer residences. In one section I was walking over a road and I stopped at a farm house and the owner, a man I should judge to be about 55 or 60 years old, who had been born on the farm, pointed out the site of an old schoolhouse and said, "I went to school in the old schoolhouse that used to stand there about 50 years ago and there were 30 or 40 scholars attended the school in winter and now one other family and myself are the only winter residents in this section." If these sections are not bought up by people to use as summer residences or by the State (and they are the only ones that are buying to any amount) it will certainly be one wild part of New York before many years.

This situation holds good in nearly all of the towns of Warren County but not to such a large extent as in the section mentioned above.

E. G. Woodward, N. Y.

Edit: Mr. Woodward in sending in this item wrote, "Looks like more white pine land in Warren County".

BLISTER-RUST INFECTION BECOMES LANDMARK

Recently, while in a store making some purchases, I heard somebody behind me say "Blister-Rust Infection". Naturally I picked up my ears. Two men were talking - one of them apparently giving the other directions for reaching his camp the following Sunday.

"Where that bad infection is on the Wells road?", asked Mr. B.

"Yes", replied Mr. A. "You turn just before you reach it, and follow the old wood road down through the pine."

So blister rust is at last receiving proper recognition from the natives.

J. W. Charlton, N. Y.

- - - -

URGES PLANTING OF PINE AND SPRUCE IN WISCONSIN\*

W. W. Morris Terms Survey Important in Forest Propagation.

Planting of open areas with pine and spruce was termed one of the most important steps in propagating Wisconsin forests here Thursday by W. W. Morris, in charge of growth study investigation under the land economic survey, Wisconsin Department of Agriculture and Markets.

Appearing for the Fourth Timber Conference of the State Land Commission, Morris declared that experience from national forest work shows three essential needs of Wisconsin. They are:

1. An inventory of stock. (To show Wisconsin timber, its kind, location, age, rate of growth, decrement and its silvical requirements to perpetuate itself.)
2. Knowledge of large areas of open nonagricultural lands that are not restocking and to convert them to a species of value.
3. Planting, first, these favorable areas to pine and spruce; second, underplant the vast areas of poplar, pine, cherry and scrub oak, gradually converting them into revenue producing species so they will be assets and not losses to the community.

In explaining his belief that open areas should be planted with white pine, Morris declared that this species of timber has produced a board foot volume 16 times that of hard maple during the past 150 years. In 100 years, Norway pine has produced 27 times the cubic foot volume of the hard maple, he pointed out.

\*Wisc. State Journal, March 7, 1930.



A PLEA FOR CONTRIBUTIONS. S-O-S.

The Editor has left town between sun up and sun down and expects to be gone a month more or less. The Editor's assistant needs a lot of short, pithy, timely articles from the field men, for she doesn't like to write articles out of thin air as ye Edit. does ('n he gets away with it too). Don't forget we want 'em by the 10th of May.

H.T.W.

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A SKETCH OF THE ORIGINAL DISTRIBUTION OF WHITE PINE IN THE  
LOWER PENINSULA OF MICHIGAN.\*

C. F. Wheeler.

Estimates of the total amount of white pine growing in our State have been made at various times. In 1835 the standing white pine was put down as one hundred and fifty billion feet, an estimate probably much too low. The census report for 1880 puts the amount of merchantable timber (white pine) remaining in the lower peninsula at twenty-nine billion feet. The total cut for that census year was estimated at a little over four and one-half billion feet.

The latest estimates of the amount of standing white pine remaining in Michigan were made in the year 1896-97 by Hon. Chas. H. Morse, the State Commissioner of Labor. These estimates appear in the 14th annual report of the Bureau of Labor Statistics. Schedules were sent to supervisors of townships and from the returns received the figures on the accompanying map are compiled. It was shown that there were approximately 775,208 acres of white pine still standing in the forests of Michigan at that date.

Edit: The following table shows the rapid decrease of white-pine acreage in two Michigan counties. This decrease was general throughout the State.

	Chippewa County	Menominee County
Recent survey by blister-rust men	2,160 acres	510 acres
Land Economic Survey, 1927-28	588 "	491 "
Mr. Morse's estimate of 1896-97	69,940 "	19,890 "

\* Bulletin 162 of the Michigan State Agricultural College Experiment Station, November, 1898.

PUBLIC SERVICE

I have been asked to try to tell "what I have learned about a blister-rust control agent's job in eight years of control work." It seems to me that is a big contract, and I question my ability to put even a part of my impressions in written form suitable for use in the NEWS. However, I have made the effort to elaborate upon just one or two related points and the results follow:

One of the facts that has been most firmly impressed upon me is the necessity for carrying on an educational campaign before any form of public control work is attempted. In other words, there is a real need for "advance agents". The persons who are to be affected in any way by a control project must first be given the facts; they must be told what is to be done and what it is being done for. Once this information is imparted, the public will not be stampeded by the misinformed and intentional evil-minded mischief-makers. Such persons, that is the mischief-makers, the scandal-mongers, the eaves-droppers, form a small but invariably noisy minority. They are capable of inflicting much damage to any public or private enterprise. Just reflect upon what happened in Massachusetts for example in connection with the gipsy moth extermination program many years ago, when a few misguided and misinformed individuals succeeded in preventing the continuance of the control program by the State. Since then the possibility of eradication has become utterly impossible and the State and private individual property owners have been obliged to spend millions of dollars to even keep this insect in partial abeyance. Moreover, if the situation can be judged by conditions in my particular district, the end of damage and expenditure is not yet in sight. And all because of the activities and influence of misguided and misinformed individuals at a time when the prospect for complete extermination seemed most bright.

Let us consider another case.

While on a recent vacation, I had occasion to travel through fourteen States and being naturally interested in public service work, I took the time to check up along my line of travel on what was current news about such projects. One cooperative public service organization in particular came to my attention. This organization seemed to be accomplishing a tremendous piece of work in a big and most efficient way. However, the organization was under fire of the fiercest type by some parties who it seemed were taking advantage of the lack of general information locally regarding what was being done and the great necessity for its being done quickly and thoroughly. These individuals were circulating all manner of what proved to be false and misleading statements and trying to discredit the whole organization and what it stood for. In my endeavor to check up on some of the most extravagant reports, I found that some were utter falsehoods and others were mere hearsay. It was simply the usual procedure. Some unknown person had told someone else that such and such a thing had been done; he in turn had passed on the misinformation with his own elaborations to someone else, and so on down the line, until the statement had become so common that



it was finally accepted as the truth. In this situation it developed that at a public hearing the Governor of the State was asked what he knew about the work that was being done and replied in substance, that as far as he knew from his vantage point the work was being done in an able and efficient manner. He then reminded his inquirer in effect that as Christ had not been entirely successful in selecting a mere TWELVE, was it not rather unusual to expect that the organization under fire should be absolutely perfect when hundreds of new recruits had to be selected, trained and placed in responsible positions in the field at such short notice. As usual, the short-comings of the one black sheep were getting all the front-page space and the great flock of white ones were getting results unnoticed. In other words, the unusual is always news and the usual is commonplace and can not qualify for front-page headlines.

As blister-rust control agents we must see our clients first and give them all the facts they need to know; tell them what we are doing and the necessity for doing it. We must keep two jumps ahead of the local gossip, so that when he comes along with his stock in trade (misinformation) it will not be news, but commonplace misrepresentation and of no avail. It has been my experience that property owners are very sensitive about being interfered with by public control agencies of any sort. It's the old pride and the idea of self-sufficiency. They wish to be left alone in the enjoyment of the way they are transacting their business and do not wish to be dictated to as to what they shall grow, or where and how they shall grow it. When asked, for instance, to destroy a nicely kept and well-tended plantation of Ribes bushes, the owner is quite naturally indignant at the seeming impertinence of such a request. But as an old (in experience) blister-rust control agent I have found that the situation can be handled in a very satisfactory way by stating the facts. It is up to us to show that when necessary we can even stand up and take abuse of the most violent sort - to keep one's good nature, smile, and show the individual that we can be gentlemen even under the most provoking conditions. Then when the right psychological moment arrives, seize it, show the individual the error of his way and assure him of our sincere desire to help him and his neighbors and not to harm him in any way whatsoever. We must point out that our work is for the community interest. That while we may be asking in this instance that he make a considerable sacrifice, it is for the greater good of the greatest number. This is how we succeed in the removal of cultivated Ribes and unlike the procedure in some States, even when they are not infected. Our danger point is to allow the local gossip to get in his deadly, false information first.

In short, we have at least learned in eight years of blister-rust control work to keep cool and calm; wait our time to demonstrate our real and sincere interest in the public good; and to get ahead of the local knocker before he gets in his mean and damaging work.

April 1, 1930.

Wm. T. Roop, Mass.

COMPARISON OF CERTAIN PROPERTIES OF FOUR OF THE WHITE OR  
5-NEEDED PINES WITH TWO OF THE COMPETING YELLOW PINES\*.

Species	Specific Gravity	Weight per cu. ft.		Composite Strength Values			(Comparative figures) Shock Resistance
		Green	At 12% moisture content	Bending Strength	Compressive Strength (endwise)	Stiffness	
Limber pine ( <i>P. flexilis</i> )	.37	39	28	69	69	107	54
Northern White pine ( <i>P. strobus</i> )	.34	36	25	63	67	119	55
Sugar pine ( <i>P. lambertiana</i> )	.35	51	25	64	68	112	55
Western white pine ( <i>P. monticola</i> )	.36	35	27	69	75	137	65
Norway pine ( <i>P. resinosa</i> )	.44	42	34	85	91	163	84
Western yellow pine ( <i>P. ponderosa</i> )	.38	45	28	65	69	112	58

\* Markwardt, L. J. "Comparative Strength Properties of Woods Grown in the United States", Department of Agriculture Technical Bulletin #158, February, 1930.



FOREST PLANTING IN THE LAKE STATES, \*  
(WITH PARTICULAR REFERENCE TO WHITE PINE.)

By Joseph Kittredge, Jr., Silviculturist,  
Lake States Forest Experiment Station.

(Continued from March Issue)

Planting Operations

Table 5. - Costs of Planting Different Species by Slit-furrow, Slit, and Hole Methods with Different Spacing.

Planting stock and method of planting	Trees set per man per day	Cost of setting per 1,000 trees <u>1/</u>	Cost per acre according to spacing <u>2/</u>		
			5 by 5 feet	6 by 6 feet	8 by 8 feet
Northern white pine, white spruce, and Norway spruce 2-1 stock at \$5 per M:					
Slit-furrow method.....	1,500	3.00	14.92	10.53	6.09
Slit method.....	1,000	4.50	16.53	11.50	6.46
Hole method.....	450	10.50	26.97	18.76	10.54

1/ Cost of furrow in slit-furrow method not included.

2/ For slit-furrow method, \$1.85 cents, and 65 cents added according to spacing for cost of plowing, based on 8 miles of furrow in a day plowed by a man and team at \$5.

Comparison of Growth in Plantations and in Natural Forests.

Height growth in the plantations at 10 years compares not unfavorably with natural growth of the same species at that age. The 9 feet for planted jack pine on cultivated soil corresponds to the recorded average figure of 9 feet for natural seedlings. The growth of 7 feet for northern white pine plantations in the Lake States on the best cultivated sites and 3 feet for the better sandy or loamy soils corresponds with the New England averages of 6 feet on average sites and 4 feet on poor sites. Natural white pine seedlings in northern Wisconsin were found by F. G. Wilson of the Wisconsin Department of Conservation to have an average height of 2½ feet in 10 years, or slightly more than the plantation average for the poorer sandy soils of the Lake States. \*\*\*.

The comparison between the growth of plantations in the Lake States and natural growth may be extended to the cubic-foot yields of the few older plantations. Northern white pine has an average volume of 800 cubic feet per acre at 20 years, as compared with a volume of 1,350 feet on a poor site, according to the New England yield table. It may be noted, however, that

\* Extracts from U. S. Department of Agriculture Bulletin #1497, June, 1929.

the New England yields were determined by the measurements of stands which had come up on abandoned fields or cultivated lands. Height growth in cultivated plantations in the Lake States is about twice that on the uncultivated sites, and therefore it would be unreasonable to expect the plantations on the uncultivated sites in the Lake States to show as high yields as those given in the New England land yield table. \*\*\*.

Table 8. - Yields of Northern White Pine in Natural Well-Stocked Stands.

Age (years)	Aver. ht. of domi- nant trees	D.B.H.	Yield per acre		Age (years)	Aver. ht. of domi- nant trees	D.B.H.	Yield per acre	
			Mill tally	Scribner rule				Mill tally	Scribner rule
	Ft.	In.	M bd.ft.	M bd. ft		Ft.	In.	M bd.ft.	M bd.ft.
5 --	1	--	--	--	60 --	64	9	33.6	12.5
10 --	4	1	--	--	70 --	71	10	42.3	16.7
20 --	15	2	--	--	80 --	78	12	50.1	20.0
30 --	28	4	5.3	--	90 --	83	13	57.0	23.5
40 --	42	6	14.2	--	100 --	87	15	62.8	28.0
50 --	54	7	24.1	8.0	120 --	--	--	--	39.7

Figures in this table with the exception of those for yields by Scribner decimal C rule are for Tables 5 and 6 in the bulletin by Forthingham already cited. Based on poor site quality New Hampshire white pine, they apparently correspond to good site in the Lake States. Mill-tally yields are based on actual saw cut. Figures in the last column are from Table 31 in the same bulletin for virgin forest in northern Minnesota.

#### Profitableness of Planting - Returns from Planted Trees.

Present prices for jack pine range from 50 cents to \$2.50 a cord, for white spruce from \$1.50 to \$6 a cord, and for northern and Norway pine from \$8 to \$12 a thousand board feet. If only a small increase over the present average prices be assumed, it is certainly conservative to estimate that jack pine will be worth \$3 a cord, spruce \$5 a cord, and Norway and northern white pine \$15 a thousand board feet 40 to 60 years from now. For the Norway and northern white pine plantations grown for 80 to 120 years it has been further assumed that improvement in quality will cause the value of the timber to increase with age. A stumpage value of \$20 a thousand board feet has therefore been taken for Norway and northern white pine 80 to 100 years old. Since high-quality white pine has special uses and is in special demand, the future stumpage value (of white pine) at 120 years has been placed at \$25 a thousand board feet. Much more optimistic predictions of future values could be made and still be within the limits of probability.\*\*\*.

(The End)



A M O N G   O U R S E L V E S

Mr. S. B. Detwiler left Washington on March 14th for an extended field trip through New England.

- - - -

Dr. J. F. Martin returned to the Office on March 19th from a field trip to the Lake States, Pennsylvania, and Iowa.

- - - -

Mr. Roy G. Pierce left Washington on April 12th for an extended field trip through Michigan, stopping off a few days at Parsons, West Virginia, to inspect Ribes conditions around the Forest Service Nursery.

- - - -

Mr. A. E. Fivaz spoke before the Luncheon Club of the local Alumni of Syracuse University on April 8th on the white-pine blister rust and its control.

- - - -

Mr. J. M. (Jack) Palmer of this Office was transferred March 31, to the field service of the Farmers Seed Loan Office as Temporary Special Disbursing Agent, with headquarters at St. Louis, Missouri. It is expected that Jack will be back in Washington in about 6 weeks.

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Mr. W. A. Rockie, Assistant Pathologist of the Western Office, arrived in Washington March 17th to work up western ecological data for publication purposes.

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The present address of "Bill" Endersbee may be of interest to some of the personnel. It is: W. J. Endersbee, Associate Forester, The St. Lawrence University, Pulaski, New York.

- - - -

Mr. Theodore P. Woolschlager was appointed agent at Boonville, New York, effective April 1.

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Mr. Irving S. Bowlby, agent at Lowville, New York, resigned February 28.

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Miss Doris Parmele was appointed Junior Clerk Typist in the Washington Office March 16th, being transferred from the Income Tax Division of the Treasury Department.

Mr. Robert E. Dennis received an appointment as Messenger in this Office on March 25th, being transferred from the Office of Horticultural Crops and Diseases, Bureau of Plant Industry.

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Mr. N. H. Harpp, who has been with the Plant Quarantine and Control Administration for several months. returned to his old position of blister-rust agent in New York State.

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Mr. A. W. Hurford, State Leader in Rhode Island, writes: "You may be interested to know that I recently became a member of the Providence Lions Club. Since its membership is made up of prominent business and professional men I feel that blister-rust control and forestry have been given recognition by such a group as important activities."

RANDALL FOREST SERVICE EDITOR

Charles E. Randall, in charge of press relations in the Forest Service, has been promoted to the position of editor to fill the vacancy made by the resignation of L. C. Everard. In addition to press information Mr. Randall will have charge of editorial work, including The Forest Worker, of educational cooperation with schools and women's clubs, and of preparation of popular forestry educational material. Mr. Randall entered the Forest Service in 1927, after wide experience as a news writer and correspondent.

The Official Record, April 3, 1930.

Edit: Mr. Randall was formerly in the Office of Blister Rust Control working during the summers of 1919 and 1920, and continuously from July 1, 1921, to August 21, 1923.

P U B L I C A T I O N S
-------------------------

Blister Rust

Clepper, Henry E. "White-Pine Blister Rust in Pennsylvania". Anthracite Forest Protector, Nov.-Dec., 1929, Vol. 4, No. 2-3, p. 3-4.

Hockey, J. F. "Currant Rust Control" - Scient. Agric. IX, 7, pp. 455-457, 1929. (Extract in "The Review of Applied Mycology, Vol. VIII, Pt. 9, Sept., 1929.)

Rex, Edgar G. "White-Pine Blister Rust in New Jersey". N. J. Dept. of Agriculture, Bureau of Statistics and Inspection Circular 170, Jan., 1930. This is an interesting popular circular and well illustrated.











# THE BLISTER RUST NEWS



May, 1930.

Volume XIV

Number 5

U.S. DEPARTMENT of AGRICULTURE  
BUREAU of PLANT INDUSTRY  
OFFICE of BLISTER RUST CONTROL





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UNITED STATES DEPARTMENT OF AGRICULTURE  
BUREAU OF PLANT INDUSTRY  
WASHINGTON, D. C.

T H E B L I S T E R - R U S T N E W S

Issued by the Office of Blister-Rust Control  
and Cooperating States.

Vol. 14, No. 5

May, 1930

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LITTLEFIELD'S REPORT, RE THE SPROUTING OF RIBES, IS APPRECIATED.

Mr. Littlefield's report on the sprouting of Ribes, which was made available as a supplement to the March issue of the Blister-Rust News is a very much worth-while contribution to our information regarding the behavior of Ribes. It seems to me that this particular report furnishes a sort of finale on this matter of Ribes "come-back" from root sprouts. My particular interest in this subject arises from the fact that I had a minor part in the experiments conducted in Massachusetts in 1918 by Dr. Regan, some of which related to this particular subject. To me, the important point is, not so much that sprouting apparently does not take place from the roots of Ribes, but that it does result when portions of the crown are left attached to broken-off roots remaining in the ground. In other words, Littlefield's conclusive findings should stimulate the field men to be sufficiently careful in uprooting Ribes to leave no part of the crown in the ground.

In spite of the fact that we can now say with little fear of contradiction that sprouts do not develop from broken roots when no part of the crown remains, the recently revised edition of the Massachusetts "Manual for Blister-Rust Field Men" contains the instructions "get the roots." This admonition, of course, means that by making every reasonable effort to eradicate the roots that may have been broken off in the uprooting of an individual Ribes bush, the possibility of leaving any portion of the crown is thereby reduced to an absolute minimum.

Would that we might have more information such as is contained in this carefully prepared and most readable report by Mr. Littlefield.

April 28, 1930

C. C. Perry, Massachusetts.



CRONARTIUM RIBICOLA FISCHER

The Editor's contribution to the March, 1930, issue of the NEWS regarding the mis-use of the word "reeradication," prompts me to inquire if there is not such an instance of misuse of words where we employ the words "Cronartium ribicola Fischer" as the scientific name of the disease - blister rust. As a matter of fact, Cronartium ribicola Fischer is the Latin designation of the causal fungus and not the name of the disease which results from the activity of the fungus. This may be a small point to quibble about, but if the use is in error it is time that we knew about it, and avoid it in future practice.

About a year ago, I had occasion to review the blister-rust laws and regulations then in force in some of the cooperating States, and recall that in at least two instances the designation referred to was used as the name of the disease in some such manner as the following:

"Whereas a dangerous and injurious disease known as the white-pine blister rust, Cronartium ribicola Fischer . . . ."

Should not such a statement read thusly:-

Whereas a dangerous and injurious disease known as the white-pine blister rust, caused by the parasitic fungus Cronartium ribicola Fischer . . .

There may be a Latin designation for the name of the disease, but someone else will have to inform the readers as to just what that is. In my opinion it is not Cronartium ribicola Fischer.

April 14, 1930.

C. C. Perry, Mass.

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PROFIT IN PLANTED FORESTS

In the United States, municipal forests are still too young to supply any data as to the financial returns that may be expected from them, but it is possible to give an illustration of what one small planted forest actually returned to its owner when cut at the age of 48 years. At East Bridgewater, Mass., in the early seventies, a young man planted a tract of slightly less than 12 acres with small pine trees that he dug up from the neighboring fields and pastures. In 1921 the trees were sold to make shoe boxes for the neighboring city of Brockton, the owner of the plantation receiving \$10.00 a cord for the lumber on the stump. The forest was cut clean, yielding 589 cords of box lumber worth \$5,890 on the stump, or a trifle less than \$500 an acre.

By Herbert F. Prescott in Municipal or Community Forests, New York State Conservation Department.

(Extract from "Town Forest News," published by Western Me. Forest Nursery, Fryeburg, Me.)

CONCENTRATING ON BLACK-CURRENT ERADICATION IN SOUTHEASTERN MASS.

In the southeastern Massachusetts district, the 1930 plan of work calls for a concentration on the elimination of the European black currant from all townships in the district. The plan is to thoroughly scout all towns or portions of towns not previously covered in the regular control program. As heretofore, our policy will be to solicit the voluntary removal of these plants, making use of the authority of the fundamental State blister-rust law only in cases of emergency or final refusal on the part of an owner to remove such plants from his property. By the close of the season we hope to be able to report that all specimens of Ribes nigrum have been disposed of in the Bristol, Norfolk, and Plymouth County sections of the district. No definite plan has been formulated for black-currant eradication work in Barnstable County (Cape Cod) but if time and funds permit, that county may also be included in this year's schedule.

This plan necessarily postpones for one season, any extensive reexaminations of original control areas. It is felt, however, that in view of the relative scarcity of Ribes as determined during the progress of initial control work, the continued cultivation of black currants is much more of a menace to the white pines in the district than any "come back" in the Ribes population. In other words, the continued existence of European black currants is the major threat in this instance.

May 6, 1930.

E. M. Brockway, Mass.

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TOWNS WARNED IN BLISTER-RUST WAR.

43 Towns Notified by State That Emergency Exists and Action Necessary.

Concord (N. H.), April 24.--Secretary of State Enoch D. Fuller has formally notified 43 towns in the State that action must be taken for the destruction of currant and gooseberry bushes, in the campaign for elimination of the white-pine blister rust.

Acting on statements of the State Forester and the Commissioner of Agriculture that an emergency exists, the Governor and Council on April 15, authorized the Forestry Department to proceed under the terms of chapter 58 of the Laws of 1929. This law provides that the State may act if towns do not move for eradication of the blister rust, though it is stipulated that no town shall be required to spend more than \$400 in any one year.

(Clipping from the "Manchester Union".)



SCOUTING FOR BLISTER RUST NEAR PUGET SOUND, WASHINGTON

Mr. E. L. Joy of the Western Office, writes in letter of April 11, concerning a recent scouting trip which he made in the vicinity of Puget Sound, Washington:

I have just returned from a ten-day trip to the coast with Miller. We collected specimens and made studies at Paschall's Ranch and the Chico area near Bremerton, and Columbia Valley north of Maple Falls. The last-named area is a very large one and offers possibilities for a damage study. We did not have time to scout this thoroughly but I believe the infection extends for several miles up the valley.

The Chico area is very interesting. A large per cent of the trees have trunk cankers, the largest and thriftiest I have seen. Some are producing aecia, on a surface four feet long, yet the trees do not seem to be weakened.

An outstanding observation of interest is that a majority of the cankers resulting from the 1927 wave are fruiting for the first time and this volume of spores is great. If weather conditions are right 1930 will be a great spread year. We had several days of rain while on the coast but there has been none over here.

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BLISTER-RUST FIELD MEN AID THE FIRE-FIGHTERS

State Foreman Collins has been fighting fire in the town of Mount Washington, Berkshire County, Mass., since noon and expects to be on the line all night. Dillon will be available for fire duty in the morning if needed. A local reporter has been over the area and reports that the fire spreads out on a line at least 20 miles in length. Collins reports that deer, rattlesnakes, wild cats and other game are traveling the main roads in general confusion. The fire originated in the town of Copake, New York, and has traveled first in a southeasterly direction and then shifted toward the north. At the present writing it is reported that the fire tower on the top of the mountain is in a dangerous position. The fire is located in our (blister-rust map) block 14, which was eliminated as a nonpine area.

May 5, 1930.

G. Stanley Doore, Mass.

Note:- We are experiencing the worst forest-fire period in local history and no rain in sight.

C. C. Perry, Mass.

## NOTES FROM RHODE ISLAND

Mr. John MacG. White's items in the March Blister Rust News on returns in marketing pine bring out the point that special market demands often allow more returns to the pine owner for high quality white pine than is commonly known. With the existing slump in the white pine market we have believed that white pine in Rhode Island would not sell for more than \$8.00 per thousand board feet on the stump. Thus I was interested in learning from Mr. E. B. Sherman of Harrisville, Rhode Island, that he was selling between thirty and forty acres of white pine, the most of which was over sixty feet high, at \$12.00 per thousand on the stump.

\* \* \*

A three-man crew started the season's scouting for European black currants on April 7. An additional man will be employed later, and the work is being planned to be carried on until October 25.

\* \* \*

It may be of interest to the Blister-Rust Control force to know that the New England Section of the Society of American Foresters has realized the importance of white-pine weevil control through the appointment by the Section's Chairman, Austin F. Hawes, of a white-pine weevil committee as authorized by the recent Portland meeting. The object of this committee is to develop and promote all possible ways and means of furthering the control of the white-pine weevil. The committee is as follows:

Dr. J. S. Boyce, Chairman, New Haven, Conn.  
E. C. Hirst, Concord, N. H.  
C. E. Behre, Amherst, Mass.  
A. W. Hurford, Providence, R. I.  
N. W. Hosley, Petersham, Mass.  
F. S. Howard, Stafford Springs, Conn.

A. W. Hurford, R. I.

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## MASSACHUSETTS PROVIDES FOR ADDITIONAL STATE FORESTS

By recent act of the 1930 Massachusetts legislature, provision is made for an increase in the acreage of State Forest land.

This act amends previous legislation, which provided for the purchase of 100,000 acres of land, by providing the authority to purchase an additional 50,000 acres. No additional funds are provided, for the reason that the original legislation made available an appropriation of \$3,000,000 a part of which is still available for the purchase of the additional acreage of land.

The passage of this legislation adds another feather to the cap of Secretary Reynolds of the Massachusetts Forestry Association to whose interest, enthusiasm, and never-say-die spirit, much of the success of the forestry movement in Massachusetts is initially due.

May 6, 1930.

C. C. Perry, Mass.



RIBES ERADICATION IN MINNESOTA.

Employees of the St. Paul Water Department working under the direction of Mr. L. B. Ritter, State Blister-Rust Control Leader completed the eradication of the wild currants and gooseberries in Lake Vadnais Watershed and the Dale Street Reservoir Forests. The Lake Vadnais Forest is one of the finest planted watershed forests in the Lake States. It was started in 1914 under the direction of Professor J. H. Allison of the Minnesota School of Forestry. These two forests contain about 100 acres of planted white pine. About 2,500 native currant and gooseberry bushes were destroyed to protect this white pine from white-pine blister rust. The work cost about 20¢ per acre of white pine protected.

Under date of April 23, Mr. Ritter writes concerning some of the work he is expecting to carry on:

"I am working near Taylors Falls the balance of the week. Today I spent in the Interstate Park. The caretaker and myself covered some twenty acres today. This will include the heaviest Ribes concentrations. I will finish work in the Park next week, using two men furnished by the Superintendent for a day and a half or two days. Tomorrow I start eradication on a 141 acre tract of mixed pine and hardwoods. After that comes a twenty acre tract. I have another 40 acres to take care of after May 15."

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IS THE BLISTER RUST NEWS READ IN IOWA?

The following clipping would indicate that someone in Iowa may have read Agent Brockway's account (See Blister Rust News Vol. XIII, No. 6, May 1929) of his trials with the owner of a patch of Ribes in Duxbury, Massachusetts, the owner placing small flags of the United States on his Ribes bushes to prevent their removal.

TIES FLAG TO BRANCHES TO SAVE 50-YR.-OLD TREE\*

Onawa, Ia., April 4 (AP)- When her efforts to save a venerable maple tree from destruction by road constructors apparently failed, Mrs. Ida Reitan brought out the stars and stripes and had the flag lashed to the topmost branches of the tree.

Axmen, unheeding the plea, "Woodman, Woodman, spare that tree," were prepared to fell the 50-year-old tree, but were stumped when informed that it would be desecration to chop down the flag's support.

So they thumbed law books seeking a legal remedy but found none.

\* From the "Boston Herald," Saturday, April 5, 1930.)

April 9, 1930.

C. C. Perry, Mass.

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OLD CENTER OF PINE INFECTION FOUND AT RALPH, MICH.

The Editor, who has been scouting for blister rust in Michigan the past few weeks, writes as follows in letter of April 27, concerning the discovery of pine infection at Ralph:

"We found a center of pine infection at Ralph, Michigan, yesterday. It was in Dickinson County, and Kroeber and I found infections simultaneously in a small group of pines, the oldest being on 1917 and 1918 wood. 14 trees showed infections. A half mile further west (all within 2 miles of Ralph to the east) we came to a pine lot of about 160 acres. Here infections were numerous, both on young and old trees. Some blister rust "flags" were 60 and 70 feet up in the tops. Other "flags" were down low on outer branches of pasture pine. 4 young 8-year pine seedlings 2 to 3 feet in height were killed several years ago by the rust. A 6 foot pine about 12 or 13 years old was dying from 2 cankers near base. These cankers date back to 1920, '21 and '22 wood. Two miles beyond Ralph to the southwest, Kroeber found 1 additional canker on 1925 wood."

Mr. John Kroeber, the other half of that Michigan crew cited above, sends in additional information on May 12th concerning this infection area:

"We had quite a gathering of blister-rust men here yesterday and this morning - Dr. Baxter, Putnam, Hodgkins, Stouffer, Beardsley, White, Thompson and myself. We visited the Ralph area today and gathered a little data. About 72% of the trees in our sample plots were found to be infected and many of the younger trees dead. We intend to lay out a few study plots and do some intensive scouting in the vicinity. Cankers dating as far back as 1915 have been found on the area."

H. T. W.

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REFORESTATION ACTIVITIES AT ST. LAWRENCE UNIVERSITY

Reforestation activities by St. Lawrence University will attain even greater proportions this spring than last according to Floyd M. Callward, head of the Forestry Department of that institution. An order for 100,000 trees for planting on university lands was forwarded recently to the Conservation Department at Albany. The plantings will include some 40 acres adjacent to the campus along Little River as well as 50 acres on the Covey Tract in Parishville. The latter planting will be largely in the nature of a demonstration forest for use by the Forestry in its extension work throughout the North country of New York.

Included in the tree order were white, red, and Scotch pine, white and Norway spruce, white cedar and European larch.

The Department plans to acquire other tracts of idle land from time to time on which will be demonstrated the practicability of reforestation work.



CONNECTICUT LUMBERMAN BELIEVES IN KEEPING HIS  
TIMBERLAND FULLY STOCKED.

Mr. Erle Kauffman writes an interesting article in the "American Forests and Forest Life\*" concerning the Bridge family of Hazardville, Connecticut, who have been operating two lumber yards, a sawmill and a box factory through two generations.

Mr. H. S. Bridge remarked concerning one of his timber lots: "We have been cutting pine timber from this tract for our lumber yards and box factory for more than fifty years." Back in 1872, Mr. Bridge's father, Amos D., began to put into practice his own ideas of forestry. "He immediately cut all of the virgin pine timber, leaving the hardwoods and a healthy stand of young white pines. Of course, there was an occasional seed tree. A few years later he cut out the hardwoods, leaving more space for the pine. We have been cutting timber from the stand for the past twenty-five years, and expect to continue to cut through another generation, at least." One tract of 300 acres was artificially planted by sowing white pine seed in the same manner as you would sow rye. "For fifteen years it has been necessary to go in every fall and thin the overcrowded areas. We used the thinnings for fuel wood. \*\*\*."

"Formerly quite a large portion of our land was covered with chestnut, and when the blight came it cut serious inroads into our forestry methods. For a number of years we had to cut, regardless of size, so as to save as much timber as possible. The land is now coming back to oak and white pine - both valuable trees, especially the white pine - but the chestnut tie and pole business was the most profitable we ever derived from our woodland. Another generation will undoubtedly find as profitable a tree in the white pine."

\* "A Lumberman Peoples His Land" in American Forests and Forest Life, Feb. 1930.

Note:- Mr. J. E. Riley, State Leader in Connecticut, writes:

"The Bridge pine comprise about 300 acres. Ribes were scarce in the pine areas but numerous in the swamps. Only 92 of the 300 acres needed eradivative work and these 92 acres of swamp yielded 1,330 smooth gooseberries and 2,430 red currants, a total of 3,760 Ribes, or 40 Ribes per acre. There was very little pine infection."

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DIAMOND BLISTER-RUST MARKERS SERVE MAN IN 270 MILE JOURNEY.

A storekeeper in Ulster County N. Y. states that in traveling to Saranac by auto, a distance of 270 miles, if he can reach a line of Blister-Rust posters along the highway somewhere in the Adirondacks at about such a time, he can make Saranac before dark. He makes the trip frequently. For some unknown reason, he states he has made a mental memorandum of these signs and measures his traveling time by them. When I mentioned putting up a window display in his store, blister rust was not new to him and cooperation was easy. Little things like this help to prove that it pays to advertise.

H. G. Strait, N. Y.

PHENOLOGICAL DATA

Mr. L. E. Newman, State Leader in New Hampshire, reports finding blisters breaking through the bark of pines on April 17.

\* \* \*

Agent T. J. King of Concord, New Hampshire, in letter of April 23, writes as follows:

"I found blisters breaking through the bark for the first time on Thursday, April 17th. They seemed somewhat backward this season for I have found them previously as early as April 9th or 10th."

\* \* \*

Agent L. C. Swain of Exeter, New Hampshire, reports that aecia were plainly in evidence on the 8th of April in Exeter.

\* \* \*

Agent J. MacG. White of Waterville, Maine, states:

"On the 15th of this month (April) I found a pine in the town of Burnham, Maine, which had aecia showing. I believe that it is the earliest that I have ever found it in my district."

On April 26, Mr. White writes: "On April 25, I found aecia coming out on diseased pine in the town of Oakland. I also found that the skunk currant leaves were well started out. The black (American) were well started. The gooseberry (hirtella) were not as well advanced as the other two. This latter condition was noted on April 26."

\* \* \*

Agent H. G. Strait of Hyde Park, New York, writes:

"Spring seems to be backward this year. Last year forsythias were in blossom on April 6th at Hyde Park. This year they are about two weeks later. There were no leaves on Ribes April 20th.

"Aecia spores were showing fairly well this year the week of April 13th at Ashokan. On this same area aecia was showing last year the latter part of March."

\* \* \*

Agent E. G. Woodward of Warrensburg, New York, reports:

"The first aecia I have found in Warren County was in the southern part on April 14, 1930, and that was only beginning to show the fruiting bodies. Found several quite well developed on April 24, 1930, on a southern exposure in the town of Caldwell.



"The last week or ten days of this month have been cold and backward, snow flurries most every day and ice forming most every night during the period so can not expect much development in vegetation and plant life."

#### Early Aecia in Clinton County

While out scouting April 17 I found a blister rust canker which was just beginning to flower out. This may not be very early for some sections but it is the earliest I have found one in this north country. Around the first of April we had a few warm days which started it, but since then it has been cold and dreary, with many freezing nights. At the present time there is plenty of snow and ice back in the mountains. It will have to change very soon or we will not be able to start the eradication season before the middle of May, if then. The buds on the trees are hardly started except a little on the soft maples and willows.

H. W. Holcomb

#### First Skunk Currant Leaf

A skunk currant leaf, partially leafed out was observed in the town of Colton, near Shurtleff, on April 12th. This town is in the heart of the Adirondacks and the foliage there is always fully as backward as the rest of this mountainous country. The sugar bush in which it was found is just south of the Grasse River and at that point is open enough so that some sunlight filters in. About a foot away from the tiny plant there was plenty of snow and ice on all sides. I attempted to press the leaves and bring them along with me, but the day was too warm. Upon reaching Saranac Lake the foliage appeared to be like so much gelatin.

This is no indication that spring is here, or that one might expect to find other Ribes in leaf. It is merely another phenomenon, and as such is quite inexplicable.

W. F. Pratt, N. Y.

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#### PRESERVING SPECIMENS OF AECIA

This item relative to our formula for an aecia-preserving solution may be too late to be of any value to the readers of the NEWS at this time. However, I recently came across a test tube specimen of "pickled" aecia that had so completely retained its original color that the formula used may be worth recording. The specimens referred to were collected just three years ago this month. The following formula was used in making up the solution in which they were preserved:

1% saturate solution of blue vitriol  
6% glycerine  
13% formalin  
80% water

This is the first spring that I have been in the field sufficiently early to obtain aecia developed to the right point for preserving. I have taken advantage of the situation this year and have a goodly supply of test tube specimens. It has been my experience that these preserved specimens are valuable aids to educational work. This is particularly the case since the specimens are illustrative of a stage of the disease that can be found during such a short period in the year.

May 6, 1930.

G. Stanley Doore, Mass.

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#### COOPERATION NEEDED

On the 17th of April I went to Keeseville, N. Y., to go out with a certain land owner to look over his area of white pine for blister-rust damage. (This man has been interviewed by at least half a dozen men on the blister-rust field force, shown plenty of blister-rust damage, but would never agree to cooperate.) The day we were out I showed him plenty of dead trees and hundreds of branch and trunk infections, which will soon kill the small trees, but still he would not agree to cooperate, saying what were killed would not make any material difference to the stand.

In one particular place we were looking at a small area of young pine (perhaps five acres). Here blister-rust damage was very noticeable. The owner remarked: "Aren't they growing nice and don't you think they look healthy and strong?" Any person, even if they didn't know blister rust could see plenty of dead trees and many discolored, and if they examined them closely, I know they would quickly say that nature alone was not doing the damage. This man is blind to blister rust and does not care to talk about it. All he had on his mind that day was what he intended to do in his stone quarry and he said if he made a good sale perhaps he would do some work on his area, which comprises around 600 acres, most of which is in white pine. I do not hesitate to say that the next time some one interviews him he will have some hard luck story or a new alibi. I would like to have anyone on the blister-rust control force suggest some way to get this man to cooperate.

#### Porcupines Damaging Scotch Pine

During our scouting trip we came to a small Scotch pine plantation, about 10 or 12 years old. As we walked along the edge of the plantation I noticed many trees which were badly girdled in several places. Upon closer observation I saw that nearly every tree along the edge, and many back in, had been girdled in the same manner, beginning about a foot from the ground and going up 3 or 4 feet on the trunks. I gathered that the work was done by porcupines and if there isn't a drive made to destroy these pests there is going to be unlimited damage done to many species of trees in rocky and ledgy country in the immediate vicinity. I called this pine owner's attention to the damage being done and he said, "Oh, there will be plenty of trees left if half of them are killed." I just wonder if he really thinks these little animals will stop their work when they have killed half the trees on a certain area, or that blister rust will disappear after doing just so much damage, without some control work being done.

H. W. Holcomb, N. Y.



LAKE STATES SURVEY INDICATES SMALL TREES LOGGED AT LOSS

A penalty of \$1.05 to \$4.66 for every thousand board feet of lumber cut from trees less than twelve inches in diameter is paid by Lake States lumbermen who include the smaller trees in their logging operations. This is one of the major conclusions reported as a result of studies of sugar maple, yellow birch and eastern hemlock made by the Lake States Forest Experiment Station at St. Paul, Minnesota, and the Forest Product Laboratory at Madison, Wisconsin. \*\*\*.

For a single nine-inch tree the average total cost of dry lumber per thousand board feet was found to be \$4.66 in excess of the value of the lumber even without figuring in the cost of permanent improvements, supervision, general expense, taxes, and insurance. With each increase in diameter the ratio of value to cost rises, the twelve-inch tree showing the first balance in profit - a margin of one dollar. Lumber from the sixteen-inch tree was found to be worth \$9.21 more per thousand than the cost of production, and from the twenty-four inch tree \$21.59 more.

It was found that the highest profit per thousand feet of combined yield was possible when only eighteen-inch trees and larger were cut. If a good supply of timber is on hand, this cutting limit will leave forty-one per cent of the original volume of the stand on the ground to provide a second cut of large timber within a reasonable time.

(Extract from "American Forests and Forest Life", April, 1930.)

Edit.- It is of interest in connection with the above study made in the Lake States to see the age at which the diameter of the average white pine tree reaches 12 inches. In Frothingham's Bulletin No. 13, which uses figures taken from fully stocked, second-growth stands in New Hampshire, the white pine on Quality 1 sites reaches a diameter of 11.8 inches at 55 years, and 12.8 inches at 60 years. On Quality 2 sites it reaches a diameter of 11.6 inches at 65 years and 12.4 inches at 70 years, while on Quality 3 sites it reaches a diameter of 11.7 inches at 80 years and 12.4 inches at 85 years.

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CONTROL WORK SEASON OPENED IN MASSACHUSETTS ON APRIL 1

The control work season for 1930 was officially opened in Massachusetts on April 1 with the appointment of three inspectors (Plant Pest Suppressors.) No Ribes were uprooted however, until April 16. The first report came from Agent Brockway in the Southeastern Massachusetts district, where 24 cultivated black currants were removed in the town of Blackstone and Millville. This completed the elimination of all cultivated black currants in these two townships.

The first wild Ribes were uprooted in Agent Roop's district in the town of Bolton. The total count for the opening day there was 255 wild gooseberries and 25 wild red currants.

To April 30, the season has been unusually dry and rather backward. The official weather bureau records for the Boston forecast district show a deficiency of 1.25 inches of rainfall as compared with the April normal. The records also show an accumulated deficiency in precipitation of 3.78 inches from January 1 to April 30. Not so encouraging for our farmers and for our water supply areas.

C. C. Perry, Massachusetts.

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MICHIGAN CARRIES ON INTENSIVE SCOUTING FOR BLISTER  
RUST IN THE UPPER PENINSULA

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During the past month there have been five crews in the field in order to locate, if possible, additional blister-rust infection areas in the Upper Peninsula of Michigan. Bruce A. Beardsley and Wm. F. Doyle of New York State reported on April 19, R. G. Pierce on April 16, and Henry F. Putnam of the the Western Office and L. W. Hodgkins about April 28. The Michigan men who paired off with the outsiders included Dave Stouffer, F. E. Grimes, John Kroeber and Messrs. White and Thompson.

Besides the infection reported by Kroeber's crew at Ralph (see page 138). quite widespread infection has been located in the Marquette County area. Mr. Hodgkins writes on May 4th concerning this Marquette area:

"We have been finding a good bit of blister rust and it is quite generally scattered over the territory we have been working; I would say several thousand acres. It is not intensified so far as we have seen yet except at one place and here real damage has been done. We laid off a 1/4 acre plot and examined all the pines finding a heavy infection. There was a total of 81 pines in the plot and 61 were infected, or 75.2%. The oldest canker found was just outside of the plot, a 1922; and the youngest, a 1928. Four of these were noted. The pines were from 5 years old to about 12 years old. There were some larger trees, but these were left out of the plot. These old trees were heavily infected in the top and side branches. The type is a pasture, rocky and swampy, but the pines are on moist rocky soil bordering the swamp.

"The Ribes, responsible for the infection are about 100 black currants (nigrum) 704 feet (paced) S. 25 W., and skunk currants 75 ft. S. W. There are more skunk currants in the swamp about 50 feet east of the plot. The skunks on the south of the plot were exposed and on a slight elevation and I believe were responsible for much of the infection. No doubt the nigrum on the hill to the south as the point of first infection, and then scattered infection to pines and local Ribes."

R. G.P.



NEW YORK MEN ATTEND SPRING CONFERENCE

The annual spring conference of the New York blister rust agents, assistant agents and coworkers was held in the new State Office Building at Albany, April 2.

The meeting was called to order by Mr. McIntyre, who acted as chairman. He gave a brief review of work accomplished since 1922 - the acres on which Ribes were eradicated each year, together with the costs, also a brief summary of the amount of work yet remaining in the State in the way of initial eradication and an idea of our problems connected with reeradication work. Tentative plans for this year's work were outlined, emphasizing the policy to be carried out in eradicating on State land, and the plans for shifting the black-currant elimination work to the white-pine control areas where it is felt the work is more urgently needed.

Superintendent W. G. Howard was with us. He touched on the work of the Department and our relationship to it. In reviewing the past year, he stated that forest fires were held in suppression better than in any previous year. Only 1/50 of 1% of the areas within the fire districts was burned over though it was one of the worst fire years they had ever had. He explained the workings of the new Hewitt bill which plans for an expenditure of twenty millions of dollars in the next fifteen years for reforestation purposes in the State and mentioned our added duties in the suppression of disease connected thereto. He also spoke of the District Foresters and their duties.

Mr. Filler of the Boston office was a welcome guest. He said the blister-rust men ought to feel complimented to know that 4 of the 5 men going as District Foresters in New York were formerly connected with blister-rust work. He spoke of the activities of the New England agents and some of their plans for the summer.

Our old friend Ed. Littlefield gave an interesting review of the progress of blister-rust control work in America. At the present time Littlefield feels that there are other problems we must consider along with blister rust if we successfully bring white pine through to maturity. These are: overstocking in natural reproduction, hardwood competition, and the white-pine weevil.

Mr. Stevens spoke on the advisability of using different types of exhibits for different occasions. He has worked out placards as suggestions of various arrangements for set-ups. We are all aware of the value of exhibits but George goes us one further by doing it scientifically.

Discussions on subjects pertaining to the work were entered into freely by all present. Now we are thoroughly primed and set for the season's work and with reasonable weather and ordinary luck we should make it "bigger and better than ever".

H. G. Strait, N. Y.

A M O N G O U R S E L V E S

Dr. J. F. Martin left Washington on May 1, for a field trip of several weeks in the Northeastern States.

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Mr. Roy G. Pierce, who has been scouting for blister rust in Michigan for several weeks, returned to the Office on May 10.

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Messrs. F. J. Baker, Wm. J. Cullen, A. J. Lambert, W. E. Bradder, F. H. Rose, L. W. Hodgkins and R. E. Wheeler, who have been with the Plant Quarantine and Control Administration for several months, have returned to their respective positions as blister-rust control agents in the Northeastern states.

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Mr. Theodore Kouba received an appointment as State Leader in Wisconsin, effective May 5. Mr. Kouba graduated from Iowa State College with the degree of Bachelor of Science in Forestry in March 1926. He has had a year and a half's experience with the Forest Service in Arkansas and has lately been connected with the Wisconsin Land Economic Inventory.

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Dr. Dow V. Baxter was appointed collaborator in Michigan on April 21, with headquarters at Ann Arbor.

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Miss Alma G. Lutz was appointed Junior Clerk Stenographer in the Washington Office on April 21.

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Personal from Massachusetts.

On April 28, Agent William Clave of Massachusetts moved his headquarters from Gardner to Worcester where he will be quartered in the central office of the Worcester County Extension Service. Mr. Clave is now in charge of control work in the combined area of Districts V and VI comprising the whole of Worcester County. The county has a land area of a million acres (1,001,614.3 to be exact), and supports some of the best stands of white pine in the Commonwealth.



Purford Elected Honorary Member of Tree Wardens' Association of R.I.

The Tree Wardens of Rhode Island met on Wednesday, April 9, at the State House, Providence, Rhode Island, to form the Tree Wardens' Association of Rhode Island. A constitution was adopted and officers elected. The Association elected Mr. Daniel A. Clarke, Tree Warden of Scituate as president. Mr. Clarke has worked with the Blister-Rust Control Agent for some time to create a desire for such an organization, which should do much to promote a greater interest in protecting shade, ornamental and forest trees. The organization elected Commissioner of Agriculture, Harry R. Lewis, Mr. Leon D. Andrews, Chief of the Bureau of Forestry, and the Blister-Rust Control Agent as honorary members.

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Andy Back from Europe

Mr. Bernard A. Anderson of the Western Office has been on leave from October 1, 1929, to April 29, 1930. We are glad he is back in the country and on the job again. "Andy" writes that he enjoyed his European trip very much and particularly life in Paris. Through the courtesy of friends of the office, in Paris, Andy made his entree under very favorable circumstances.

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Personal from New York

Theodore P. Wooschlager succeeds Irving S. Bowlby in District 8. Mr. Wooschlager is a graduate of the College of Forestry, Syracuse University, class of 1922. After graduation he spent several years in the U. S. Forest Service in the southern Appalachians and the Southwest. In 1924, he became associated with Camp Mishike, a forestry camp for boys in the famous lake region of northern Wisconsin. Mishike is the first forestry camp in the Midwest, and is sponsored by Dr. H. P. Baker, the former Dean of the College of Forestry at Syracuse. Besides managing the camp forest, which included a small nursery, Wooschlager acted as Assistant Director and Business Manager of the camp during the summer. Mr. Wooschlager is also an ex-service man and spent 14 months over seas with an infantry unit, serving in the capacity of a rifle expert.

Mr. Wooschlager reported for duty at the Albany Office on April 15th and selected Boonville, Oneida County as his new headquarters. Both Mr. and Mrs. Wooschlager are natives of northern New York (Lewis County) so there is little danger of their not fitting into the picture.

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THINKS ULSTER COUNTY PINES WILL CONTAIN SOME REACTORS.

Talking about forest pests, a man from over the river told me the other day that all the trees around there had been tested for Gipsy Moth and no reactors found. He thought when I tested the pines I would find quite a few reactors. Every business has a language of its own. His was the language of a dairy farmer and not that of a tree man.

H. G. Strait, New York.

THE WHITE PINE WEEVIL - ITS BIOLOGY AND CONTROL\*

Summary

The White Pine Weevil (Pissodes strobi Peck) is the most serious insect pest attacking the white pine (Pinus strobus L.) The leading shoot is killed, resulting in loss in height, loss in radial increment and often poor form. The timber value is also materially affected; lumber sawn from weeviled trees will usually show large knots at the points of weeviling, and very often decay will be present. Short lengths will often be necessary because of the many crooks in the stems due to weevil injury.

The adult weevils hibernate mostly in the lowest layer of the litter, just at the surface of the mineral soil under trees fed on during the fall. Occasionally they hibernate at the bases of trees cut during the late summer or fall. The trees fed upon during the fall may or may not have been weeviled that season. Young adults and even full-grown larvae from eggs laid late in the season may, under very favorable conditions, hibernate in the leaders.

The weevils emerge from hibernation in the spring about the time the buds begin to swell, and activity apparently ceases with the cessation of accelerated aerial elongation, as no weevils are found from this time until the new generation emerges. This period depends on the growing season and weather conditions. The females may be fertilized in the fall, as well as in the spring. Oviposition begins soon after activity is resumed, reaches the peak in two to three weeks and then gradually diminishes, ending with the cessation of activity of the old adults. Development from the egg to the adult covers a period of approximately three months. The new generation emerges in the late summer and feeds on the tender inner bark of the tips of branches and leading shoots, but does little damage as compared to that done in the spring. Feeding ordinarily goes on at intervals until settled cold weather prevails, and then the weevils go into hibernation.

The adult weevils, in both spring and fall, are relatively strong fliers. They can cover considerable distances when wafted by the wind, and can thus re-infest an area or infest a new area in a short time. The air temperature necessary for general flight appears to be between 70° and 85° Fahrenheit. Above and below this range, comparatively little flight has been observed. Both sexes will fly directly to the leading shoot, but the majority strike the trees lower down and crawl up the stem. In the early spring, before warm weather prevails, many of the weevils reach leading shoots by crawling up from the ground.

The degree of intensity of infestation depends primarily on the number of host trees available, weather factors (chiefly temperature), soil conditions and exposure. Adults feed and oviposit more readily on trees in pure, widely-spaced stands than on trees in dense, pure stands or in mixed stands of pine and other species, such as hemlock or hardwoods. Stands on medium agricultural (sandy loam) soils will generally show the most injury. Stands on sandy soils may have as many trees weeviled per acre, but the ultimate injury is not so severe. Plantations or stands on sunny exposures are more liable to weeviling than those on exposures protected from the morning sun.

\* By H. J. MacAloney - See under Publications, page 152



Direct control measures are generally too expensive for common practice in isolated stands, where the infestation is low and the danger of reinfestation is slight, or in stands which are being preserved for their aesthetic value, such control measures may be used advantageously.

Weeviling, in stands which are subject to attack from surrounding areas year after year, can sometimes be checked, but not controlled, by the removal of the infested leaders, collection of the adults during the spring feeding period, spraying with repellents or banding the leaders. The cost of these treatments, often more than a dollar per acre per year makes these measures prohibitive over wide forested areas.

The breeding and liberation of parasites and predatory insects in infested areas is an uncertain measure of control. The cost, necessary for breeding and liberating a number sufficient to have an appreciable effect, would be too great to make such a project financially practical over a wide area at the present time.

Insectivorous birds are very valuable natural control agencies and they should be protected and encouraged in pine woodlands.

In pure stands, both natural and artificial, the greater the number of trees per acre the smaller will be the percentage of weeviling. A dense stand is financially practical only when it can be procured naturally at a high enough density to offset any weeviling which may occur. Where site conditions and the stocking are favorable for vigorous growth good stands of merchantable old field pine are common.

The most advantageous and cheapest way to protect white pine from the weevil and to control the injury is to grow it in mixture, preferably with species that will be of value in the final crop. The choice of the other species will be determined by the economic conditions in any given locality. Weedings in the early stages, if the mixture be with hardwoods, and thinnings as the stand becomes older, will be necessary so that the pines will not be crowded out. There will not be so many white pines in a mature mixed stand, as in a mature pure stand of normal stocking, but those present will be clean boled and straight and the value of the whole crop will be greater.

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#### MICHIGAN PLANTS 39,000 ACRES OF FORESTS IN 1930.

Lansing, Mich., April 25. In issuing his Arbor Day proclamation today, Governor Fred W. Green announced that 39,000 acres of white, Norway and Jack pine were being planted in State forests this year, against a total of 71,000 acres planted in twenty years since the reforestation program was begun.

"Michigan leads all States in reforestation", the Governor declared. "During 1930 the State will plant more trees in the State forests than ever before. Before the close of this year, this activity will have embraced 110,000 acres."

(Clipping from the "Chicago Herald Examiner", April 26, 1930.)

O F F I C E   C O M M E N T

RADIO TALKS

OFFICE OF INFORMATION MEMORANDUM # 5

Bureau chiefs recently have told me that they have been at a loss to know what response to make to requests for radio talks to be given in broadcast programs sponsored by commercial concerns. It has been intimated that it would be well to have the administrative regulations amended so as to cover this subject.

After considerable thought, it seems to me that the question is amply dealt with in existing regulations. Naturally, officials of the Department of Agriculture in acting on invitations to deliver radio talks should be guided by the intent of the rules and regulations which cover the issuance of Department information in all forms.

For instance, paragraph 600 of the administrative regulations declares it to be the policy of the Department not to refer by name to commercial institutions or enterprises, in any of its publications (which now, of course, include official radio addresses) the purpose, as stated, being to avoid the use of the Department as a medium for advertising. Paragraph 604 requires bureau chiefs to approve radio addresses by employees of the bureaus, if the addresses treat only of subjects pertaining to the work of their bureaus. If the material treats in any way of the policies of the Department or the work of other bureaus the address must be submitted to the Office of Information for approval. Again, paragraph 661, subparagraph (f), clearly indicates that employees should not permit the use of their names in the advertising matter of organizations commercializing any of the work conducted by the Department, irrespective of any merits which these enterprises may possess.

In other words, the employee's first consideration should be whether or not the acceptance of an invitation to take part in a commercially sponsored radio program would in any way officially embarrass the Department. Numerous regulations other than those cited indicate that it is improper for Department employees to endorse or to appear to endorse the products of any commercial concern.

Radio methods and the entire setup are changing rapidly. It would be unwise, I feel for the Department to make hard and fast rules now which in a short time might become obsolete. If we follow the intent of present regulations on information work, all requests for radio addresses will be handled to the best interests of the Department.

Very truly yours,



April 3, 1930.

M. S. Eisenhower,  
Director.



RECENT COMPTROLLER'S DECISIONS

Traveling Expenses - Meals or Lodgings Furnished by Member of Family.

The term "family" as used in paragraph 47 (c) of the Standardized Government Travel Regulations contemplates any person related to the employee by consanguinity or marriage.

The term "dependent" as used in paragraph 47 (c) of the Standardized Government Travel Regulations means dependent in fact on the employee for any support, even though having other means of adequate support.

Where an employee of the Government in a travel status is furnished meals or lodgings by a member of his family, by another Government employee, or by a member of another Government employee's family, without charge, reimbursement therefor is not authorized under any circumstances, either on an actual expense basis or a per diem in lieu of subsistence basis.

Where an employee of the Government in a travel status is furnished meals or lodgings by a member of his family, by another Government employee, or by a member of another Government employee's family, with charge, in order to authorize reimbursement therefor it must be shown: first, that the subsistence was not procured because of such personal or official relationship; second, that it was impracticable to secure the subsistence elsewhere; third, that the person furnishing the subsistence was not dependent on the traveler for support. In the absence of such evidence an employee on an actual expense basis is entitled, within the prescribed limit for actual expenses, only to the other authorized subsistence expenses incurred, and an employee on a per diem allowance basis is entitled to one-fifth less for each meal or lodging so furnished with charge. (A-29831) 9 Comp. Gen. p. 363.

Traveling Expenses - Meals Furnished by Another Government Employee.

The per diem in lieu of subsistence allowance of an employee of the Government who, when traveling on official business, is furnished without charge a meal as the guest of another Government employee, is required by paragraph 47 (c) of the Standardized Government Travel Regulations to be reduced one-fifth for each meal so furnished. (A-29776) 9 Comp. Gen. p.366.

Traveling Expenses - Duty En Route to First Duty Station.

Where an employee is directed to perform duty in Washington, or elsewhere, in connection with and incident to the work at the regular duty station for which appointed, he is entitled to salary and subsistence during the period he is performing such duty away from his regular post of duty, but he is not relieved from the obligation of bearing the expense of reporting to his regular duty station; i.e., such expense as the employee would have been required to bear if no stop-over had been required to perform duty en route. (A-30075) 9 Comp. Gen. p. 359.

Traveling Expenses - Air Travel

Travel on official business may be performed by airplane if the cost to the Government does not exceed the cost of railroad fare, plus Pullman fare when length of journey would authorize the use of Pullman accommodations, less land-grant deductions when applicable.

Airplane transportation, irrespective of the comparative cost of rail transportation but not exceeding the cost of like service to the public generally, may be utilized by employees of the Bureau of Mines when an emergency such as a mine disaster necessitates the immediate presence of the employees with rescue apparatus. (A-30422) 9 Comp. Gen. p. 354.

Note:- The State Leaders have a complete copy of the above decisions which may be referred to if any of the agents so desire.

H.P.A.

OATHS TO EXPENSE ACCOUNTS

Deputy Postmasters and Deputy Collectors of Customs or Internal Revenue are not authorized to act for their principals in administering oaths to expense accounts. Assistant Postmasters, however, are within the qualified class and may administer such oaths. (P. B. A. Circular #129.)

H. P. Avery

P U B L I C A T I O N S

Ribes

Detwiler, S. B. "Black Currant Spreads White-Pine Blister Rust".  
Revision of Misc. Publications No. 27, U. S. D. A.

White Pine

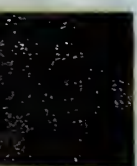
MacAloney, H. J. "The White Pine Weevil (Pissodes strobi Peck)" - Its Biology and Control. New York State College of Forestry at Syracuse University Technical Publication #28, Vol. 3, No. 1, February 1930.











# THE BLISTER RUST NEWS



June, 1930.

Volume XIV

Number 6

U.S. DEPARTMENT of AGRICULTURE  
BUREAU of PLANT INDUSTRY  
OFFICE of BLISTER RUST CONTROL





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UNITED STATES DEPARTMENT OF AGRICULTURE  
BUREAU OF PLANT INDUSTRY  
WASHINGTON, D. C.

THE BLISTER - RUST NEWS

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and Cooperating States.

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June, 1930

HOW TO TELL EUROPEAN BLACK CURRANTS

Since the European black currant, Ribes nigrum, is being eliminated in a number of States, and since it is desirable in nursery sanitation work to destroy all bushes of this particular species within one mile of the nursery, it is absolutely necessary to distinguish between the American black currant and the European black currant. Mr. J. E. Riley, Jr., in a recent circular \* has given in two parallel columns the distinguishing characters of each of these two species:

"The European and American black currants may be distinguished from all other cultivated currants by the amber-colored resin dots on the under side of the leaves. No other cultivated currant leaf (in the Eastern States) has them. The two cultivated black currants may be distinguished from each other as follows:

European Black Currant

Ribes nigrum

1. Resin dots on under side of leaves only.
2. Branches and twigs are round.
3. Leaves and stems have a strong disagreeable, spicy odor when crushed.
4. Fruit smooth, black, pungent, somewhat musky.
5. Flowers, greenish or whitish, saucer-shaped or open bell-shaped; racemes nodding, short, 5 to 10 flowers.

American Black Currant

Ribes americanum

1. Resin dots on both sides of leaves. A magnifying glass may sometimes be necessary to see them on the under surface.
2. Branches and twigs are angular or ridged.
3. Leaves and stems do not have strong, disagreeable odor when crushed.
4. Fruit smooth and black but not pungent or musky.
5. Flowers, greenish-white or yellowish, cylindrical-bell-shaped; racemes pendulous, many flowered."

\* Riley, Jr., J. E. "European Black Currants Outlawed" in Connecticut Agricultural Experiment Station Circular 69.



HEAVY BLISTER-RUST INFECTION AT ACWORTH, NEW HAMPSHIRE.

While the presence of white-pine blister rust has been known for some years throughout Sullivan County, it is only recently that an unusual outbreak of this serious bark disease was discovered in one of the County's most southerly towns. Inspector E. J. White had previously located much general infection on the pines of Acworth, but it was due to the activities of Agent Frederick J. Baker that this area of infection - (more severe than the Moose Mountain tract, in Hanover) - was brought to light.

During the spring of 1929, the State Leader, with the assistance of Mr. Baker, made a careful examination of an area along the upper waters of Underwood Brook, situated in northeastern Acworth.

Leaving the car at the foot of a steep and impassable hill, a hike of some two to three miles along abandoned logging roads brought us to an upland valley, whose slopes, as well as the bottom lands, were well seeded with white pines. All along the way the rust was plainly evident among the pines, becoming more noticeable as the waters of the brook were approached.

Selecting, more or less at random, an acre adjacent to the stream, a careful inspection of each pine was made and its condition noted. As a result it was found that 94 out of every 100 trees were hopelessly infected by the rust. In many instances, the pines had been so severely hit by this disease that every branch contained six or eight infections, thus making a total of from 100 to 300 outbreaks on each tree. Many of the pines were already dead; others in a dying condition.

Glancing over the hillsides adjacent to this acre, dead side branches or brown tops plainly indicated the hold which blister rust had already secured. \*\*\*.

L. E. Newman, N. H.

(Extract from "New Hampshire Forests," March, 1930, p. 20.)

- - - -

BLISTER-RUST FOREMEN'S SCHOOL WELL ATTENDED

The annual school for training new men in blister-rust control work was held at the State camp near Bolton the week of May 12th. About twenty enrolled for the school. Actual field work was carried on under the supervision of trained men. A State plantation was protected by the conventional 900 foot border, also work was done on the rugged slopes of Tongue Mountain in a natural stand of white pine. Vegetation was not very far advanced which necessitated looking very close for the scattered gooseberries and currants. In addition to the field work, instruction was given regarding the disease by Mr. McIntyre, and the classification of the different Ribes in New York State was thoroughly explained by Mr. Littlefield.

Mr. McAvee, who had charge of the camp, provided the boys with plenty of good food and comfortable quarters.

H. G. Strait, N. Y.

SOME NOTES ON BLISTER-RUST PHENOLOGY

Last Tuesday, May 27, I found the first uredinia reported in Connecticut this season. It was in the town of Salisbury on Ribes vulgare. No infection could be found on Ribes aureum, odoratum or americanum. At another place in Salisbury, later in the day, Clark and I found nine out of thirteen Ribes vulgare slightly infected.

The first fruiting specimen on white pine was found in the town of Thompson on May 22, although I took a truck specimen from the American Brass Company plantation in Torrington on May 8, that was about ready to fruit and did fruit a few days later after it had been kept in water.

J. E. Riley, Conn.

\* \* \*

On April 24, blister-rust aecia were found just bursting through the bark at Iron Mountain, Dickinson County, Michigan, by John Kroeber and R. G. Pierce.

\* \* \*

Agent Lambert reports finding the uredinial stage on skunk currants at Seal Harbor, Mt. Desert Island, Maine, on June 8.

- - - -

FIRST RECORDS OF THE UREDINIAL STAGE FOR  
THE 1930 SEASON - MASSACHUSETTS

Dist. I-II	Agent Roop	May 21	Bolton	on <u>R. hirtellum</u>
Dist. III-IV	Agent Brockway	May 29	Fairhaven	on <u>R. nigrum</u>
Dist. V-VI	Agent Clave	May 23	Sterling	on <u>R. cynosbati</u>
Dist. VII-IX	Agent Doore	May 28	Gt. Barrington	on <u>R. hirtellum</u>
Dist. VIII	Agent Wheeler	May 20	Williamsburg	on <u>R. cynosbati</u>

C. C. Perry, Mass.

- - - -

DESTRUCTION OF RIBES NIGRUM BUSHES STARTED IN MALCNE, N.Y.

The first six days of a black-currant survey in the town of Malone, Franklin Co., by foremen Muzzy and Boyce, have resulted in the destruction of 112 Ribes nigrum. Out of 371 owners interviewed, there were 11 owners of Ribes nigrum. This means that about 3 per cent of the owners possessed at least one of the prohibited bushes. One owner had 47 Ribes nigrum growing on his property.

Foreman Muzzy reports that one man in particular was slow in understanding his mission. Muzzy drove up to his place with several good sized black-currant bushes in the truck; bushes he had removed a few hours previously from another's property. After he had carefully explained his business and glanced around the property for signs of black-currant bushes, the owner remarked, "No, I don't believe I want to buy any."



### PUTTING PINE INFECTION TO WORK

The town of ..... in District V, Worcester County, Massachusetts, is where nature in its past upheavals pushed some of New England's coastal rock through the surface to a considerable elevation, resulting in the development of some of the most scenic spots to be found in eastern Massachusetts. The farmers hereabout are of the old Pilgrim-Puritan stock, the same that has produced some of the most stern and sterling historical characters in the country. They are the kind, however, who had to "be shown," long before any white man set foot upon the soil of Missouri.

These were the conditions prevailing when on a frosty December morning in 1929, I attempted to "break the ice" and interest some of the leading citizens of the town to lend their support to a general Ribes clean-up campaign for the protection of the white pine in the town against the blister rust. On every turn I was met with the cool, firm, courtesy that so well befits the countenance of a thoroughbred New Englander. I realized that to succeed with a blister-rust control campaign in this town, one must step lightly and only on the high places. Therefore, I concluded that I had better carry out my tentative plans for a vacation and store up all the tact and energy possible for a renewed effort in the early spring. Then, with the assistance of the season's warming influence, I would make another start for the ultimate goal - the elimination of Ribes from the town.

Early in April found me on the job again. My first move was to secure an appointment with some of the officers of the town government for the purpose of going over the assessors' lists from which I hoped to be able to make up a list of owners in possession of pine timber lands. A few days later I was accommodated in an especially heated room in the small but beautiful public library in the town and was given access to all the records needed. I also received some assistance in the preparation of my list. In spite of the apparent hospitality, I was constantly yet perhaps tactfully made to understand that I was an outsider and must not disturb local conditions or infringe upon the town's long standing and firmly established policy of hands off to newcomers. In other words, the situation had not changed materially during my absence on leave. I was told that blister rust was not in the town and probably never would be, and that while the State's interest in their town was appreciated, I would find that our assistance would not be required.

Of course I diplomatically agreed that such would be an ideal condition of affairs but I would make a thorough examination of the town for blister rust and report the results of my search. Thus it was up to us to locate blister rust if it was present in the town and then put it to work. Our assistance would in fact not only be unnecessary but would probably be refused if such action could be possible.

The search began and I learned from the State Leader that our good friend Mr. Hodgkins had found the disease in the town. In company with the State Leader we found that the location reported by Mr. Hodgkins was in a stand of reproduction that I had particularly commented upon on one of my previous



trips through the town, a stand in which the owner was especially interested apparently, since he had quite recently carried on intensive pruning operations. On making further examination in the area, we were indeed rewarded for we found any number of trunk cankers in the partial fruiting stage and in full view of the road. An abundance of wild Ribes was also found nearby and our roadside demonstration was complete.

Hurriedly placing red field tags on the most conspicuous trees, I rushed off to ascertain the name of the owner. This information was readily obtained, but as the owner was out of town the foreman of the estate was contacted and immediately persuaded to visit the infection plot. After seeing the diseased trees the foreman agreed to get in touch with the owner by telephone that evening and, subject to his approval, he promised to have a crew of five men on the job in the morning.

Things certainly did move during the next few days. By the use of this plot blister rust was shown to all the town folks who would look at it. Our promise to make a report of conditions to the officers of the town was complied with verbally and the officers were not only shown blister rust, but were made to realize the danger of such a pest and the immediate need of a clean-up of the Ribes in the town for the protection of the white pine crop. The very man who was the most certain that there was no blister rust in the town was the first to ask for assistance in carrying on control work on his property.

In a few days the majority of the pine owners in the town were signed up for cooperative work. Up to the date of May 15, about 80% of the necessary Ribes eradication work is finished and not a complaint heard. This in spite of the fact that in addition to the wild Ribes removal work, it has been necessary to destroy upwards of 500 cultivated Ribes.

And so it was that the finding of this blister-rust plot turned what seemed to be the most difficult task we have had to meet into one of the easiest control projects we have had in our eight years of blister-rust control work. In addition, the finding of the plot has saved our forces many days time in securing cooperation. That's what a good plot of infected pines can do for us in securing interest and cooperation. It might be noted here that during the progress of the control work countless pine infections have been found. All of which has helped to support our statement of the need for action in preventing the further spread of the rust.

May 15, 1930.

W. T. Roop, Mass.

- - - -

#### BLISTER-RUST NOTES FROM CONNECTICUT.

The eradication season in Connecticut commenced April 7th with a black-currant elimination project in the town of Salisbury, and later scouting was carried on for wild Ribes in Thompson and Thomaston. Effective work could not be done on either project until the middle of April. Only a small force has been in the field to date. Nursery sanitation work started May 2.

J. E. Riley, Conn.



IT TAKES A GOOD MAN TO BECOME A "RIBES HOUND"

Blister-rust workers in Michigan conferred degrees on themselves last summer according to their ability to pass certain tests. A copy of the tests and the degrees has just been received from the Michigan Office and may be of interest to the "hounds" in other States:

"We, the charter members of the Ribes Hound Fraternity do hereby submit a list of initiation qualifications that each candidate must pass before qualifying as a desirable member:

1. Identify and give the distinguishing characteristics of eight species of Ribes common to Michigan.
2. Give a detailed description of the life history of the white-pine blister rust (Cronartium ribicola).
3. Identify and give the distinguishing characteristics of the native Michigan pines.
4. Write an article on blister rust suitable for publicity use.
5. Make a pre-eradication survey of an area to be worked giving necessary information for crew foreman.
6. Climb a tree over 40' in height.
7. Pace a distance of 1/4 mile with error allowance of 10 yards.
8. Estimate a given distance up to 1/2 mile within one tenth.
9. Act as foreman on eradication job for at least one day, conducting crew in satisfactory manner.
10. Secure the cooperation of owner in removing his cultivated black currant bushes.

CANDIDATES WILL BE CLASSIFIED IN THE FOLLOWING GRADES WITH ONE WEEK OF GRACE EXTENDED TO COMPLETE THE REMAINDER.

1. Pass 10 successfully - Ribes Hounds.
2. Pass 9 successfully - Ribes Pups.
3. Pass 8 successfully - Ribes Curs."

- - - -

GYPSY MOTH LARVAE FOUND ACTIVELY FEEDING ON AECIA

While recently on a field trip with Agents Clave and Roop in the town of Bolton, Massachusetts, our attention was directed to what seemed to be a new insect pest of white pine. Upon closer examination, however, it was determined that the insects were newly hatched gypsy moth larvae. The small caterpillars were actively moving about in the contents of the aecia on the canker and were so completely covered with aeciospores that they very nearly escaped our attention. From 50 to 100 larvae were on the canker, evidently representing the population of a recently hatched egg cluster.

May 21, 1930.

C. C. Perry, Mass.



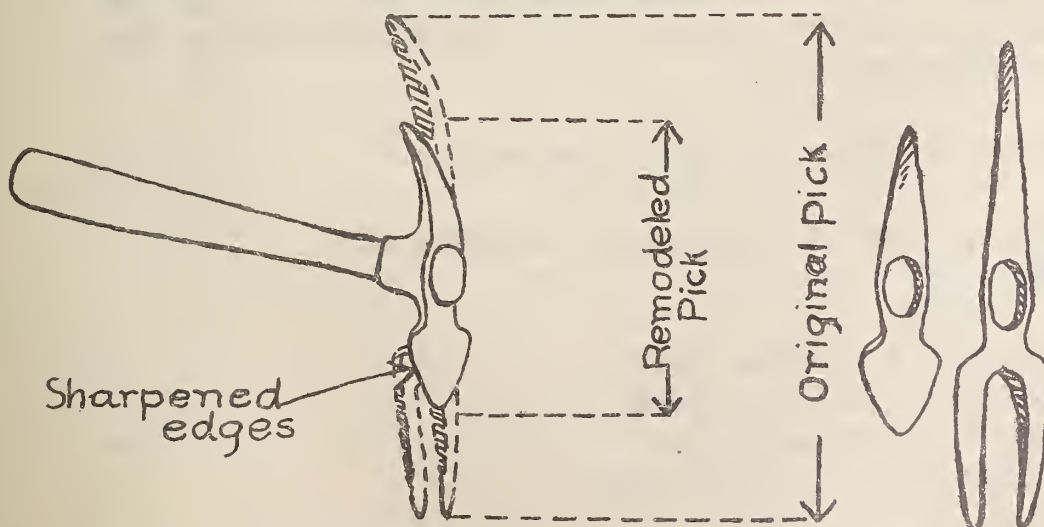
## A LIGHT GRUBBING TOOL FOR PRELIMINARY SCOUTS

On account of the amount of traveling to be done by our preliminary scout, it is necessary for him to travel light. He is often at a disadvantage when he meets the occasional large bush and has no tools but those provided by nature with which to grub it out. Another type of bush, which results from pasturing of the land and close grazing, presents but a small amount of foliage above ground, yet has a large amount of material in its root system. It is next to impossible to pull one of these bushes and get all the roots with one's hands. Oftentimes the soil is baked hard by the sun and trodden by grazing animals until it is more like cement than soil. Where only scattering bushes exist the scout, properly equipped with a light grubbing tool, could handle these himself thus saving additional costs of returning with tools and a helper or two. In addition to convenience it often takes quite a while to locate the scattered bushes, especially if some distance from good land marks.

At the beginning of last season's field activities, I took account of equipment for crews and found that a number of hand picks which had been used the previous seasons, were broken and bent so that they would be useless unless repaired. These picks have always been invaluable to crews in grubbing out large bushes and no crew goes to work without one or two being carried. I took several of the broken picks to a blacksmith's shop and had him cut them down and make them over to my specifications. The pick end I had cut off so that it was about four inches in length and the grub hoe end taken off leaving only a diamond-shaped point two and one half inches long by about one and three quarters wide. This made the tool quite a bit lighter and much handier to carry. The men were pleased with the weight and appearance of the renovated pick so I issued two to one crew and two to scouts. Minor changes were made in the amount of curve or hook to the pick end and the corners rounded on the grubbing end. The scouts continued to carry their picks without prompting and crew members called for the pick much more often than before. My observations were that roots were coming out cleaner, especially along stone walls and fence rows.

I do not recommend this tool for all types of *Ribes*, but I certainly do, without reservation, for *Ribes hirtellum* which is our prevailing evil.

L. C. Swain, N.H.



Note: This is the kind of thought, experimentation and practical application that brings progress. There is still room for improvement in crew equipment and crew methods. This active interest of all the field men in perfecting control practices should result in further improvements and better *Ribes* eradication.

J. F. M.



BLISTER-RUST CONTROL WORK IN INTERSTATE PARK, MINNESOTA.

The Taylors Falls (Minn.) Journal of May 8th has an interesting quarter column on Ribes eradication in the Interstate Park at Taylors Falls:

"L. B. Ritter, State Blister Rust Control Leader is spending several days in Taylors Falls supervising the eradication of currant and gooseberry bushes in Interstate Park. Frank Lundberg and Geo. Reynolds are working with Mr. Ritter. \*\*\*.

"No blister rust is present in the Park. Currants and gooseberries were removed in 1921. The bushes have, however, been increasing until they are again present in large enough numbers to menace the pine.

"Blister rust is doing considerable damage in some of the pine stands near Taylors Falls. Practically every private owner of pine in this vicinity is cooperating with Mr. Ritter who represents the Minnesota State Forest Service and the United States Department of Agriculture in protecting their pine stands.

"The early history of Taylors Falls centers around white pine and the mills cutting the virgin stands into lumber. Today only a few small stands are to be found in this vicinity. That these have some commercial importance is evident considering the fact that one saw mill operating near Taylors Falls cut 300,000 feet the past winter.

"Farmers owning woodlots can make them a very profitable part of the farm if they are given some of the same care that other farm crops are given. Timber stands should be built up in the same way as a dairy herd, by selling the culls and saving the better trees for future growth."

Mr. Ritter adds some figures on the above work:

"Finished the eradication of Interstate Park May 8th.

Acres eradicated - 153.

Acres of pine - 153.

Total cost - \$50.30 or \$.329 per acre.

Total bushes - 3,800 or 24.8 per acre.

2,800 gooseberries or 18.3 per acre.

998 wild black currants or 6.5 per acre."

Edit: Blister-rust control work has been very successful in protecting the white pines in this Park. In Taylors Falls the blister rust was present in a nursery in 1916 and probably in 1915, while across the river at St. Croix Falls, Wisconsin, it was probably present several years earlier. However, no infection has ever been located within the boundaries of the Park.

Eradication work in Interstate Park at Taylors Falls was first carried on in 1917 according to P. O. Anderson in his 1920 report. In this latter year (1920) Ribes were destroyed on an area of 35.4 acres in the Park, the work being done between May 10 and 22, and the total number of bushes eradicated being 5,259. In 1921, according to a report by K. J. Braden, the Interstate Park was gone over again and 8,246 Ribes, mostly under one foot tall, removed. The cost averaged 44.3 cents per acre. The two years work in 1920 and 1921 may be classed as one operation. In these years a total of 13,505 Ribes bushes were removed. In 1930, nine years later, only 3,800 Ribes were removed. This reduction in the Ribes population of the Park by 2/3 is one of the results of control work. Ultimately this area should become practically Ribes-free.

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#### BLISTER RUST IN OREGON

White-pine blister rust was first found in the West in British Columbia in 1921. Four years later it had spread over a considerable area of Washington and northern Idaho and had reached the northern part of Oregon. In 1926 the first infected pine trees were found in the Mount Hood region. Since that time the disease has spread to 10 counties of the State as follows: Hood River, Wasco, Clackamas, Marion, Jefferson, Washington, Tillamook, Polk, Benton and Curry. In only three of them -- Hood River, Wasco and Clackamas -- has the infection been found on the western white pines. All other infection was on either gooseberry or currant plants.

The spread apparently indicates the correctness of the prediction of officials of the Bureau of Plant Industry made in 1926 that the disease would ultimately reach the white and sugar pine stands of the southern part of the State. Of outstanding importance in the spread of the disease was the locating of infected gooseberries along Brushes Creek in Curry County on September 24. This is the first point in the State that the disease has been found on gooseberries or currants where they were in good association with sugar pines. It can reasonably be expected that diseased trees will be found in that region within the next year or so. The remarkable feature of this spread into the southern part of the State is the great distance from any diseased pines. Scouting for the disease throughout the State would indicate that the closest infected trees, although none were definitely located, were some place along the Coast Range in Tillamook or Polk County. A spread for this distance is rather unusual. A possible explanation is that the spores were carried by the moist coast winds. The spores exist but a short time in dry conditions. \*\*\*.

Considerable scouting has been done to determine localities infected and the rate of spread of the disease. Eradication of the host plants has been confined to removal of all known cultivated black currants within the State and the cleaning up of two areas of about two sections each in Hood River and Jackson Counties.

(Extract from the Nineteenth Annual Report of the Oregon State Forester for the year ending December 31, 1929.)



POSSIBLE SOURCE OF INFECTIONS IN EASTERN WISCONSIN  
AND NORTHERN MICHIGAN.

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Where was the source of the Keshena infection and of the infections in the Upper Peninsula of Michigan? Ye Editor, rambling through the Confidential News Letter of the Office for June 16, 1919, ran across the following, which may throw light on this question.

"Scouting on the Menominee Indian Reservation in Wisconsin by Messrs. Pickler and Dorr has been in progress near Keshena where the disease appeared on Ribes last year, and in vicinity of planted pines, about 12 miles north of Keshena. The Keshena area has been intensively inspected for infected pine with negative results although the rust was found there on wild Ribes last autumn (1918). The planting area contains about 15,000 white pines which were purchased in 1913 from an eastern nursery. This nursery is known to have sent out diseased trees to other points and the infection found at Keshena may have come from infected trees in the planted area. The 15,000 pines are but a part of the original number planted, the rest having been destroyed by fire in 1917. As yet no diseased trees have been found, but many of the plantings remain to be inspected."

The early infections in Iron Mountain, Ralph and near Ishpeming in the Upper Peninsula, are practically in a straight line northeast from this old planting area 12 miles north of Keshena, Wisconsin; Iron Mountain being 65 miles distant, Ralph 88 miles, and Ishpeming 120 miles distant. With this large white pine planting made in 1913 on the Indian Reservation north of Keshena, Wisconsin, it is possible for the blister rust to have made its appearance at Ralph, Michigan, on pine in 1915. This is the earliest date to which the origin of cankers at Ralph have been ascribed by Kroeber (See last News Letter, page 138).

R. G. P.

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KING FINDS STUDY OF INFECTION PLOTS VALUABLE

I have, with the assistance of the two inspectors, carried on studies in 5 infection areas. On one area where we examined over 1200 trees I was very forcibly struck by the large number of young trees - 1½ feet to 5 feet - that had been killed by blister rust. It recalled to mind the trip Mr. Detwiler took in New York State a few years ago after which he reported a high mortality rate among seedlings. I am planning on keeping track of infection as it is found by the members of the field force under my direction and wherever conditions warrant, conduct a study later on. I believe that the more of these study areas we have scattered throughout our districts the more we will have to show people.

T. J. King, N. H.

EDUCATIONAL ACTIVITIES IN BLISTER-RUST CONTROL  
IN RHODE ISLAND IN 1929.

The educational features of the blister-rust control program were as in the preceding year emphasized more than any of the other projects. White-pine blister rust and its control is not clearly understood by people who should know, even with what educational work has been done in the past. Thus, to stimulate public interest, as well as to increase active cooperation on the part of owners of white pine and currants and gooseberries, the agent has found it very important to give much time to this project.

The two educational activities of most importance during the year pertain to black-currant eradication and to blister-rust control in white pine reforestation projects. Five window and fair demonstrations were held during the year. These demonstrations were seen by over 21,000 people. Other educational work included 15 meetings addressed; taking part in four field demonstration meetings; the distribution of 4,380 publications and 910 mimeographed articles; the writing of 19 news items and the placing of 167 posters and signs about the State. In addition, the many personal interviews and individual and group contacts made by the agent allowed much opportunity to give out blister-rust information.

A radio talk on white-pine blister rust and its control with emphasis on cultivated black-currant eradication was given by the agent over a local broadcasting station. This talk was heard by many people who later in the year cooperated in the eradication of their cultivated black currant bushes. Two other talks given proved to be of importance. One of these was given before the Rhode Island Licensed Arborists at their annual meeting, instructing them as to white-pine blister rust and its control. The other talk was given to twenty forestry leaders of the State at a field meeting on the Scituate Watershed. Both of these group meetings allowed the agent to increase active cooperation in blister-rust control. Two feature stories on blister-rust control in the magazine section of a local Sunday newspaper attracted much attention on the part of the general public.

The agent aided the Commissioner of Agriculture in stimulating interest in reforesting idle areas with pine by informing property owners as to the protection of these seedlings from white-pine blister rust. Over thirty-five individuals planted pine after receiving blister-rust control information. Five thousand copies of a reforestation pamphlet were reprinted with blister-rust control measures included.

This project allowed contacts with watershed officials, the State Extension Service, the State Experiment Station, nurserymen and the general public as well as with private landowners.

(Extract from the Third Annual Report of the Rhode Island Department of Agriculture, for the Year 1929.)

Edit:- State Leaders in the Lake States, Pennsylvania and New Jersey, where blister-rust control has not been carried on as long as in New England and New York, will, I feel sure, be interested in the Rhode Island educational program which is carried on very largely through the efforts of one man, the State Leader.



RITTER REMOVING RIBES

All this rain may be fine for the rest of the boys but it sure is poor blister-rust control weather. At that since the first of the month, I have only missed two and a half days because of rain. This cool, rainy weather is most favorable for the spread of blister rust. Currants and gooseberries show an unusual amount of infection for this early in the year.

I paid the Hartley plantation in East Duluth a visit Sunday, May 18th. There is even more blister rust in this planting than we thought. Canker after canker on tree after tree can be seen in all the glory of orange-colored blisters and powdery spores.

So far this spring we have eradicated the currants and gooseberries in the St. Paul Water Department's watershed forests, Interstate Park and 130 acres of private pine land. The last two weeks of May were spent at the Cloquet Forest Experiment Station, where we are using five students a day for eight days. I don't know how many of these swamps we will get cleaned up. I do know that we are going to learn something about eradication in our Minnesota swamp types.

(Extract from "The Smoke Screen," St. Paul, Minn., May, 1930.)

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FIGHTING FOREST FIRES IN WESTERN MASSACHUSETTS  
DELAYS RIBES ERADICATION WORK.

After returning to headquarters yesterday evening I got in touch by telephone with one of my foremen in the town of Warwick. Ribes were abundant in the area, but few had been destroyed because of the fact that all available men were called to fight a forest fire in the town. Today I will be in touch with two other foremen who are supposed to be pulling Ribes, but may have been on fire duty. One of the two has been appointed a fire warden in an adjacent town.

After the fires are out we will get the Ribes, if there is any pine left to protect.

May 8, 1930.

G. Stanley Doore, Mass.

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WISCONSIN ON THE MAP AGAIN

The director of publicity of the Wisconsin Department of Agriculture and Markets announces the creation of a new job in the department - a full time supervisor of white pine blister rust control. \*\*\*.

(Extract from the "Capital Times," Madison, Wisconsin, May 14, 1930.)

Edit: Mr. Theodore Kouba has been assigned to fill the above position.

### CONTROLLING BLISTER RUST IN THE NORTHWEST

Since blister rust needs two types of plants, the pine and the Ribes bush, in order to complete its life cycle, the control of this disease has been centered upon the destruction of the Ribes plants.

The disease has been spreading steadily in the Pacific Northwest region since 1910, and today we find it established, temporarily at least, in the white pine stands of Idaho. During 1929 an extensive center of pine infection was discovered near Elk River, Idaho. This area covers about 60 acres of young and valuable timber. During the year numerous infections on Ribes were found scattered throughout the white pine belt, extending to its southern limit in the Clearwater river region. In general, it may be said that, potentially, the white pine belt in Idaho is infected with the rust.

Although an invasion has occurred, the counter-attack has already begun and in 1929 we find that 21,500 acres of timber land in the Clearwater region and 57,010 acres of timber land in the Potlatch region of Idaho have already been protected by the large-scale application of the chemical eradication method to the Ribes plants growing along the streams, supplemented by a certain amount of eradication by hand-pulling the bushes. Such a statement merely presents the results in concrete form and in no way gives a picture of the immense amount of work involved in the development of the methods now in use.

Through research, the Blister-Rust Office has discovered a chemical which when sprayed on the leaves kills certain Ribes bushes outright, and work is now in progress to develop additional chemicals which will accomplish a similar result with the other species of Ribes. Contrary to common opinion, all of this work is not of the sheltered laboratory type. A great amount involves roughing it in the mountains so that practical tests may be made in the timbered areas. Problems of transportation, building of trails; development of methods to carry large quantities of chemicals and equipment into remote places; the best designs and layout for the spraying lines, and for portable pumps; methods of laying out the area before work commences; and methods of checking the work to determine its efficiency have all been met and satisfactorily solved by the blister-rust workers. A type of one-man, portable knapsack sprayer mounted on a modified Nelson trapper board with a hand pump attached has been developed for use in regions where power spraying by means of gasoline pumps is impracticable. These improvements and discoveries coupled with the development of more efficient methods of handling eradication crews in the most difficult terrain increases our confidence in the belief that the control methods when properly applied will check the disease. To complete a hopeful picture it is found that these same improvements and discoveries are gradually lowering the cost of eradication and bringing it within reasonable limits. Where the estimated cost of control on an experimental basis in 1922 near Elk River was around \$1.44 per acre, the actual cost in 1929 of chemical



eradication on an average area such as the Potlatch operation was but 53 cents per acre. Both of these areas represent the stream type of eradication containing large quantities of highly susceptible Ribes.

There is additional cause for optimism in the theory recently developed that selective cutting of timbered areas discourages the development of certain Ribes plants on those areas. The residual stand if dense enough may thus help to shade out ambitious Ribes plants and may also aid in reducing the fire hazard. To complete the picture, the next field season will open with an increased budget available for use in greatly extending the amount of local control work which will be applied to the white pine forests of Idaho.

Ernest E. Hubert.

(Extract from "Fighting Forest Diseases," Four L Lumber News, Vol. 12, No. 10, April 1, 1930.)

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#### BLISTER RUST IN RAINIER NATIONAL PARK, WASHINGTON

One of the heaviest infections of blister rust ever found on western white pine was discovered May 3 in Rainier National Park, three and a half miles up the West Side Highway from the Nisqually entrance by C. C. Strong, L. N. Goodding and M. C. Riley.

The infection is in a wide valley and extends up the side to and above the highway. Later S. N. Wyckoff, E. L. Joy and Goodding visited the area. So far no attempt has been made to scout out the limits of the infection, but the brief examination by the two groups mentioned revealed that practically all of the trees on the area were infected and most of them were "flagged."

"It was impossible to count the cankers on some of the trees as entire limbs would be a solid mass of cankers," said Strong.

"Many of the cankers are fruiting for the first time but a large number have fruited at least twice. Infection is not confined to the branches, as many large trunk cankers were seen."

Three species of Ribes are in association with the infected trees, R. laxiflorum, R. bracteosum and R. lacustre.

The infected area is about five miles by air line from the closest valuable western white pine stand. The nearest area is near Longmire Springs, and eradication work will be done there this season to save the trees from blister rust.

(Extract from the "Western Blister Rust News Letter," May 15, 1930.)

COMMENTS FROM "LITTLE RHODY"

Forest Fires Cause Great Damage in R. I.

Forest fires in Rhode Island have been more devastating, and the spring season has been more hazardous than any on record. Over 25,000 acres of forest and brush land have been burned over this spring. The majority of the larger fires occurred in hardwood regions, although some valuable pine areas were burned. Public interest has been aroused more than ever demanding greater protection to our forest lands. This interest is bound to continue and increase forest protection activities. It is unfortunate, however, that such devastation has to take place before citizens are persuaded to take active cooperation.

Boy Scouts Carry On Large Reforestation Project.

One of the larger reforestation projects of the season was that undertaken by the Boy Scouts of the Greater Providence Council, which includes most of Rhode Island. Over 500 boy scouts and their leaders, representing over 100 troops, spent Sunday, May 18, planting 25,000 white pine 4-year transplants on their recently burned over woodlands. The blister-rust agent spent the day with them instructing them on blister-rust control and relative forestry matters. These boys come from homes scattered throughout the State from Providence to Westerly, and from Westerly to Newport. Thus it is felt to be one of the best educational projects in forestry that has yet been undertaken.

Scouting for Cultivated Black Currants.

Scouting for cultivated black currants has been carried on by the State crew since April 7 in five townships of the State. In the territory now being scouted, few black currants are found growing, therefore much area has been covered by the men. Not a single objection has been made to the work by a black-currant owner as yet this season. The cooperation received is very encouraging.

A. W. Hurford, R. I.

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EDUCATIONAL WORK IN MARQUETTE COUNTY, MICHIGAN.

Mr. D. J. Stouffer, State Leader in Michigan, writes in letter of May 16:

"Yesterday I spent most of the day at North Lake, Marquette County, assisting the school there establish their forest. Talked for about fifteen minutes to the group of planters, which included about fifty students, five teachers, the Extension Leader for the Upper Peninsula, the County School Commissioner and the County Agent. Shortly afterwards, I found an infected tree within 200 feet of the edge of the planting. Passed this infection around personally and had some interesting conversations with the students.

"Today I did the same thing at Negaunee. Made plans for protection work at Negaunee, however, and did not get an opportunity to do so at North Lake."



### BLISTER RUST IN THE COOK STATE FOREST PARK

The Cook State Forest Park was made possible by a special appropriation of the Legislature, together with funds raised by popular subscription. When the Commonwealth acquired title to this area in December, 1928, it was discovered that a very pressing problem in blister-rust control existed. The disease was first noticed two years previously on Ribes, but later search showed its presence on pines, some of the cankers dating back to 1918. The tract is located in Clarion, Jefferson, and Forest Counties, and has an area of 6,000 acres. White pine in original stands is present, and the seeding in of open spaces emphasizes the need of blister-rust control.

The many ravines and thin stands of young hardwoods make an ideal habitat for Ribes, and they are found in profusion, frequently as many as 5,000 plants per acre. Skunk currants are also found, but less abundantly.

An initial eradication took place soon after acquisition, but was confined to the pine areas, and along trails, roads, and streams. In larger areas in the forest the dense growth, particularly of hemlock, had long since shaded out the Ribes.

Scouting and eradication covered more than one-third of the total area, and resulted in the removal of nearly 200,000 Ribes bushes. Inasmuch as the Cook Forest is a recreational forest, it was believed desirable to remove the unsightly pine having cankers, and the diseased trees will be given attention this fall after the recreational season closes. Small pines hopelessly infected will be destroyed, others will be pruned to remove cankers on the branches.

One of the purposes of establishing this area as a State Forest Park was to preserve one of the largest remaining stands of virgin timber in Pennsylvania so that future generations may see a remnant of what was typical of the whole of the State, and what gave Pennsylvania her name, Penn's Woods.

Chas. E. Zerby, District Forester.

(Extract from "The Anthracite Forest Protector," Vol. 4, No. 2, Nov.-Dec. 1929)

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### WHITE PINE COMES BACK IN WINCHESTER, MASS.

That too often the amount of growing pine in a locality is not realized, and the rapid growth thereof not fully appreciated, is well illustrated by a statement given the author \*. It appears that in 1900, the pail and tub plant in Winchester, belonging to the New England Box Company, was burned down. At that time the company believed there was not sufficient pine in the locality to warrant rebuilding the factory. Since that date, however, there has been cut in Winchester about 3 million feet annually, and estimates indicate enough standing timber remaining to supply this factory indefinitely.

\* Extract from article in "New Hampshire Forests" entitled "The New England Box Company." See page 182.

BLISTER-RUST EDUCATIONAL WORK STIMULATES INTEREST IN TOWN FORESTS

During recent months we have had evidence of the beneficial effect of our educational work in stimulating interest in forestry activities, and in this particular instance, interest in the establishment of local Town Forests.

The first instance came to our attention last fall when the State Leader received a communication from the President of the Ashland, Massachusetts, Home Study Club citing an interview with the blister-rust agent and making inquiry regarding detailed information relative to the establishment of Town Forests. The inquiry was diverted to Secretary Reynolds of the Massachusetts Forestry Association, sponsor of the Town Forest movement in Massachusetts.

The second instance is a more recent one. While endeavoring to secure cooperation in the town of Bolton, Massachusetts, we had the pleasure of meeting one of the influential leaders in the town, who became an active cooperator in our control program. During one of my interviews with our cooperator, he expressed an interest in our comment to the effect that the town should have a Town Forest, and asked our opinion as to the availability of land for the purpose. As a result of our study of pine conditions in the town we were able to point out that at the rear of the Town Hall there extended an area of some 650 acres, an area of almost complete waste, as far as timber production was concerned, bringing in little or nothing to the town in taxes; an area of no present appreciable value to the owners or to the town.

The interest shown by our cooperator was at once passed on through the State Leader to Secretary Reynolds for suitable action on his part. A letter received from Mr. Reynolds in acknowledgment contains the comment:

"I am glad to have the information regarding Bolton. We have been working in Bolton for some time, but without success. We shall write to Mr. --- at once and perhaps we can start something."

And so it is, that our educational work is of value beyond the mere problem of blister-rust control.

May 27, 1930.

W. T. Roop, Mass.

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BLISTER-RUST CONTROL AT CLOQUET, MINNESOTA.

Mr. L. B. Ritter, under date of May 12, writes:

"I am due in Cloquet the first of next week. We are using student crews there to eradicate Ribes around the planted pine in the Cloquet Forest Experiment Station. We are using five-men crews, a different crew every day for eight days. We are calling it a course in Ribes eradication methods. The students will, I hope, learn something about pulling Ribes and we will get practically all the white pine on the Station protected. Some of the fellows have already had experience in Ribes eradication in the West."



RIBES FOLLOW FOREST FIRES.

That forest fires are very effective in producing conditions favorable for the germination of Ribes seeds lying in the forest floor was clearly demonstrated at the fifteenth annual white-pine blister-rust control conference, held at Warrensburg, N. Y., November 1 and 2.

An extensive area of mature white pine was lumbered in 1923, but before the operation was completed, a forest fire broke out near the sawmill in March 1925. Because of the large amount of slash present the fire killed all reproduction, and developed into a crown fire in the adjoining stands of young conifers. Not a green thing remained on the area.

Following the fire as many as 338 gooseberry bushes per acre were found to be present on the area in 1927, though on the unburned area adjoining there were only 44 bushes per acre present. The owner planted most of the burn with white pine in 1925, and already these young trees are showing the effect of the disease.

Ribes seeds are believed to remain viable for many years if deposited in favorable conditions, such as leaf litter on the forest floor. They may remain in a dormant condition until some disturbance occurs, such as a forest fire or a lumbering operation, then the small Ribes seedlings spring up in abundance. This condition is believed to account for the great abundance of Ribes bushes on some of the State Forest areas in the northern tier in Pennsylvania, where lumbering was followed by forest fires; then the burned lands were later planted. Accordingly gooseberry bushes and the white pine seedlings grew up together.

(Extract from "The Anthracite Forest Protector," Vol. 4, No. 2, Nov.-Dec. 1929)

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CONTROL OF WHITE-PINE BLISTER RUST IN MINNESOTA.

White pine was the tree that lumbermen cut when they started operations in this State. It was the source of our initial wealth. Although Norway pine and other trees formerly considered of little worth have taken the place of white pine for a large number of uses, the day of white pine has not passed. The present cut of white pine in Minnesota is twice that of any other State cutting eastern white pine. It makes up one-third of the total saw-log cut and one-eighth of the total timber cut of the State. There is enough of merchantable white pine in Minnesota for fifteen to twenty years cutting at the present rate.

An extensive survey in 1927 by the Washington blister-rust control office placed the acreage of white pine in Minnesota at 700,000 acres. This figure is undoubtedly low since the acreage on which white pine is an important tree for St. Louis County alone is placed at 218,797.

White pine and white spruce are the trees recommended for planting under the aspen stands of northern Minnesota toward the conversion of these stands into the more profitable coniferous stands. \*\*\*.

White pine blister rust is a European disease present in twelve Minnesota counties in our natural white pine area and is doing considerable damage. One-quarter of the pine reproduction in a stand near Taylors Falls is infected and a great deal of it has been killed by this disease. A large number of mature trees are infected and have been killed in Rush City area. These infections occurred before control work in this area, in 1919. A planting of white pine in the east end of Duluth was examined in 1927 and eight infections found. Last year 482 infections were found on 103 trees in an one-eighth acre plot in this planting. \*\*\*.

The blister rust law passed by the 1929 session of the State Legislature authorized the Commissioner of Forestry and Fire Prevention to take measures to control white-pine blister rust. \*\*\*. Control work will be carried on this summer in Chisago, Pine, Kanabec, Cass and St. Louis Counties on Federal, State and private land. \*\*\*.

L. B. Ritter.

(Extracts from "Control of White Pine Disease Starts" in Fins, Feathers and Fur, No. 85, May, 1930.)

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#### RIBES ERADICATION IN OREGON AND WASHINGTON

The blister-rust work in Oregon for this season is chiefly a continuation of last year's program. Six men will conclude the eradication work in the Still Creek planting. This will consist of making a solid unit or block of the eradicated area by completing the stream-type eradication south of Still Creek and a small creek entering Still Creek from the north, about one-half mile above the old planting cabin. The entire area will also be worked by scouts to catch missed bushes in the portions already worked and to complete the eradication on the slopes south of Still Creek.

At the Wind River Nursery in Washington, a six man crew will complete the eradication of Ribes bracteosum on the heads of Martha Creek even beyond the mile zone, to prevent the constant seeding in along the stream below. The stream type along Trout Creek will be checked to the limit of the mile zone. No attempt will be made to follow farther up this stream, as it and its tributaries represent miles of stream type.

L. N. Goodding.

(Extract from "Western Blister Rust News Letter," May 15, 1930.)



BLISTER-RUST FOREMAN AIDS IN BOYS CLUB WORK

"Forestry Study Club's Purpose \*

"Seven boys of Housatonic have organized a club known as the Housatonic Valley 4-H Forestry club. The local leader for the group is James Collins who is employed by the State in forestry work.

The requirements for the first year of 4-H Forestry club work are:

1. Attendance at club meetings.
2. a-Mount 15 specimens of wood.  
b- Make leaf print of specimens collected.
3. Make a simple hypsometer and learn how to use it.
4. a-Learn how to make a safe fire and extinguish before leaving.  
b-Be keenly alert that similar precautions are followed by others.
5. Exhibit specimens at local fair.
6. Keep record book.
7. Distribute and post fire warnings furnished by proper authorities.

It seems particularly fitting that boys should engage in a study of this kind, particularly since it has such a direct bearing upon the welfare of Berkshire County. Education of boys in the value and care of our forests may help to prevent such recent disasters as the Mount Washington fire. It is the aim of the extension service to promote this work as far as practicable."

\* Extract from "The Berkshire County Eagle," May 28, 1930.

Note: "Jim" Collins has been on blister-rust work in the Berkshires for the last few years, and was sufficiently interested in the work to attend the annual blister-rust control conference at Warrensburg last fall at his own expense.

It is being suggested to Collins that some knowledge of blister-rust work, perhaps the identification of Ribes, might be included in the requirements for 4-H Forestry club work, at least in his particular group.

C. C. Perry, Mass.

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NEW YORK CHANGES ITS BLISTER-RUST LAW

The New York legislature passed an amendment to the Conservation Law relative to the suppression of the white-pine blister rust and the currant rust. This amendment was incorporated in the law February 17, 1930. While in 1929 the two yellow flowering currants, Ribes odoratum and R. aureum, were included with Ribes nigrum as public nuisances, in 1930 the yellow flowering currants were omitted. In the matter of compensation for bushes destroyed, the 1930 law takes out from that section, which included the three black currants for which no compensation was allowed, the two yellow flowering currants, R. odoratum and R. aureum, thus leaving only Ribes nigrum, for the destruction of which there is no compensation allowed.

R. G. P.

MORE COMMENTS ON CRONARTIUM RIBICOLA FISCHER.

Mr. Perry's note in the Blister Rust News of May 30, on the mis-use of Cronartium ribicola is worthy of a little more consideration than some of us may have given to it. It is unfortunate that in popular terms the causal agent and the disease are known in this instance by the same name, but certainly blister-rust workers ought to distinguish between the two. Cronartium ribicola should be applied only to the fungus. One may correctly speak of the blister-rust fungus and of the disease known as blister rust.

It might even be pointed out that blister rust (the disease) does not spread, but rather the fungus Cronartium ribicola Fischer spreads by means of spores, and because of the presence of the fungus in the host an abnormal condition (disease) results, and this condition in white pine is known as blister rust.

Dr. Ray R. Hirt, N. Y.

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BLISTER-RUST ROADSIDE DISPLAYS IN DEMAND IN MASSACHUSETTS

For several years blister-rust roadside displays in one form or another have blossomed out every spring with fresh paint and signs along the main routes, watering places and camp grounds throughout the western part of Massachusetts. This season will be no exception and we have made plans to erect more than the usual number of these displays. At present twelve have been put in condition and material for the construction of twelve more has been ordered.

The Secretary of the Chamber of Commerce at Great Barrington has requested that a display be placed near the information booth at the summer office of that organization which is run in conjunction with a well known automobile club. They have also expressed a wish that they might have one of those neat red tin bulletin holders. The Rohunta Recreation Club of Orange, Massachusetts, asks that the same display they had last year be returned to its usual position. The owners of Idyl-Dell, a gasoline filling station on the Berkshire Trail have been enthusiastic supporters of our educational work ever since our first interview with them three years ago. Bulletins are supplied with all the displays, but the above cooperators always call for additional literature when the supply gets low.

After a decision has been made to place a display in a given location, the owner of the property is then interviewed and cooperation solicited. Never in our experience have we received anything but hearty support in this phase of our educational work.

May 8, 1930.

G. Stanley Doore, Mass.



BLISTER RUST ALUMNUS GIVES PROGRESS REPORT

Alumnus of Dartmouth and the Office of Blister-Rust Control contributes to alumni fund by reeradicating Ribes from College land and adjoining properties to protect College pines. The Ribes hound of the blister-rust investigation area at Temple, N. H., (where infection was definitely traced nearly two miles from a center on R. nigrum) spends business vacations each year reeradicating Ribes at Hanover, N. H.

Is now on the zigzag trail (meaning on the Ribes hunt) and has just discovered a compound fracture of all the blister-rust laws on the books. A little diplomacy has secured promise of early removal of the bushes and their proper destruction, and saved the trouble of prosecution. The violation was entirely unintended and carried out upon mistaken advice from a person who should have known better. The bushes in question were Ribes nigrum shipped from Barre, Vt.

Says scouting is better relaxation from duties of treasurership than golf. Confirms previous report that hemlock underplanting is better than two-legged scouts because it stays on the job of keeping out the Ribes twenty-four hours a day, 365 days a year and 366 days in leap year, and never smokes of its own free will. No fire risk can start from hemlock because the same deep shade which puts the Ribes out helps to keep the ground moist so that the very fine mulch is much less likely to carry fire rapidly or throw it up into the crowns.

He also notes the information about a small cherry tree that is being introduced through the station at Bell, Md. He thinks that this contribution deserves a counter contribution of a dry basket with some of those cherries in it. They should be sent to him at 247 Fisher Avenue, Brookline, Massachusetts, where he will be when cherries ought to be ripe.

Joseph L. Richards, Mass.

Note:- Ye Editor believes this contribution from Mr. Richards, who is now in business in Boston, is interesting from several standpoints. Richards believes thoroly in Ribes eradication and still conducts this needful forest protective work on his vacations. Would it not be of great assistance if the hundreds of men who have worked with us on Ribes eradication during the summers in the past 14 years, would follow Richards' example.

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NOTE TO AGENTS

Through the courtesy of the U. S. Forest Service sufficient copies of Technical Bulletin No. 166, "Timber Growing and Logging Practice in the Northeast" were secured to send to each of the eastern Agents. If you did not receive your copy, please advise the Editor of the Blister Rust News.

SOME NOTES ON GERMINATION OF SEEDS OF FIVE-NEEDED PINES

Miss Lela V. Barton in an article entitled "Some Coniferous Seeds," published in the American Journal of Botany for January, 1930, gives some interesting data on some experiments conducted with the germination of coniferous seed at the Boyce Thompson Institute at Yonkers, New York. While there is considerable information concerning the germination of other seeds than those of five-needled pines, only that data which refers to these pines is here given:

Summary

1. Experiments on the seeds of several coniferous trees revealed a general favorable effect of low temperature stratification on seed germination.

2. Sample plantings made in the greenhouse after stratification in moist acid peat at 5° C. for a period of two months not only saves time in seedling production but also produces more complete seedling stands in the majority of cases. In some instances other stratification temperatures or periods or both prove more advantageous.

4. \*\*\* Pinus flexilis, Pinus monticola and Pinus strobus, show decided beneficial effects of stratification at 5° C. for a period of two months. Not only are the seedlings produced in a shorter period of time, but the actual number of seedlings produced is greater than in the corresponding controls.

5. Three months' stratification at 10° C. resulted in the best germination (8 per cent after 25 days) Pinus excelsa obtained in these tests. This was better than the average control (2 per cent in 60 days), but further study is needed.

6. Pinus koraiensis responded equally well to stratification for three months at 5° C. or for one or two months at 10° C. However, the best germination (33 per cent in 43 days) was obtained after the seeds had been stratified for five months at either 0° or 5° C.

7. Pinus lambertiana seeds gave best germination after stratification for three months at 10° C. Pinus lambertiana 1928, thus treated yielded 92 per cent germination in 25 days while the average control of the same lot had produced no seedlings in 70 days.

12. Pinus cembra and Sequoia sempervirens seeds used in this study produced no seedlings at all. Seeds of the former appeared wrinkled and rather dried when the outer coat was removed. Cutting tests of 300 seeds of the latter showed 11.3 per cent good embryos.

13. Weekly alternating temperatures of - 0° to 5° C. were tried in the case of Pinus excelsa, Pinus koraiensis, Pinus lambertiana, and Pinus strobus. This alternate freezing and thawing apparently has no beneficial effect.



PLANT MANY TREES IN NEW JERSEY STATE FORESTS

"Planting of 350,000 tree seedlings has been begun at the several State forests (in New Jersey) under the direction of the State Department of Conservation and Development.

"As an experiment, said an announcement by the Department today, plantations of Japanese chestnut trees are being established at a number of locations. An effort is being made, it was explained, to find a species to replace the native chestnut tree which has been killed by blight.

"The seedlings being planted include various kinds of pine and spruce and other varieties. It is planned to set out 125,000 trees at the Bass River Forest and 80,000 at the Lebanon Forest, both of which are in Burlington County."

Note:-Mr. P. B. Mott, State Leader in New Jersey, who sent in the above newspaper clipping, gives us the following additional information concerning this planting program in New Jersey.

"There are 100,000 white pine seedlings being distributed this spring as compared to 162,000 in 1929. State Forests will receive the following:

"Lebanon State Forest 1,300 white pine transplants; Belle Plains 300 transplants; and Stokes State Forest 8,000 transplants.

"In planting white pine seedlings in 1930, they will include; 10,000 to Arthur Brisbane, noted newspaper columnist, who will plant these on his Lakewood Estate; the Dupont Estate at Gibbstown are adding 5,000 to several acres already planted; the Bucks County Boy Scouts of Doylestown, Pa., planted 4,000 seedlings near Frenchtown, N. J.; the East Orange Water Supply Company are adding 20,000 seedlings to already large plantings and the Mercer Airport of Trenton will plant 5,000 near their airport.

"Of interest to the program of planting white pines in New Jersey, the State Department of Conservation and Development has changed their policy in white pine distribution and will plant heavy quantities of seeds this year, so that a few years hence they will be able to distribute strong transplants. This should readily encourage others to plant white pines."

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SUGAR PINE AND YELLOW PINE FORESTS ADDED TO  
YOSEMITE NATIONAL PARK.

The United States has just taken title to 13,000 acres of privately-owned timberland in Yosemite National Park, the purchase price of \$3,300,000 having been shared on a 50-50 basis by the Government and John D. Rockefeller, Jr., Secretary Wilbur of the Interior Department announced May 28. The land, the Secretary said, contains superb sugar and yellow pine forests which were marked for early lumbering unless steps were taken to save them. (Press, May 28.)

O F F I C E   C O M M E N T

UNITED STATES DEPARTMENT OF AGRICULTURE  
DIRECTOR OF PERSONNEL AND BUSINESS ADMINISTRATION  
WASHINGTON

June 6, 1930.

CHIEFS OF BUREAUS AND OFFICES:

One of the bureaus of the Department had recent occasion to adjust the salary of an employee paid on the hourly basis. The compensation normally paid for the class of service upon which the employee was engaged was 35¢ per hour, but, it appearing that the employee would be called upon to use his personally owned automobile for official duty, the compensation was increased at the rate of 15¢ per hour, making the total hourly compensation 50¢. This matter came to the attention of the Solicitor of the Department, who comments on the practice in the following language:

The Department is without authority to enter into any agreement which includes in the salary compensation the hire of an employee's automobile. There are two ways in which an employee's automobile may be utilized by the Government, (1) by reimbursement on a basis of actual operating expense, and (2) by the payment of not to exceed 7¢ per mile. Any other method is illegal, and the method pursued by the Bureau in the instant case of computing assumed operating expenses and increasing the employee's salary is particularly objectionable.

In view of this opinion, chiefs of all bureaus and offices of the Department are requested to issue the necessary instructions to the end that reimbursement for official use of personally owned automobiles as an element of compensation or salary may be avoided in the future.

W. W. Stockberger, Director.

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HOTEL ACCOMMODATIONS

The Blackstone Hotel, 1016 Seventeenth Street, N.W., Washington, D.C., has recently offered through the Office of the Chief Coordinator the following special rates to employees of the U. S. Government for the period of June 1, to October:

Single room, \$2.00 a day.

Two persons in a double room, \$3.50 a day.

These rates are for outside rooms with bath and shower, and the rate offered Government employees is practically one-half of the regular rates.

H. P. Avery.



BLISTER-RUST PUBLICATIONS AT WASHINGTON

The Office of Blister-Rust Control, Washington, D. C., has recently received from the field a surplus stock of Miscellaneous Publication No. 22, "Protect White Pine From Blister Rust." As there are several thousand of these publications on hand the Office would be glad to supply each agent who needs some, with one or two hundred as long as the supply lasts. It might be remarked in this connection that Dr. Martin is planning to revise this publication, using new pictures, but this will not appear until sometime later.

There are also on hand about 400 copies of Spaulding's Technical Bulletin 87, "White-Pine Blister Rust: A Comparison of European with North American Conditions." Probably the agents have been supplied with this bulletin but very likely it will be of interest to some of the temporary blister-rust employees who are engaged in summer work.

Send in your request to the Washington Office stating how many of these publications you desire.

R.G.P.

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BUREAU DESIRES STANDARD HEADING FOR CERTAIN MIMEOGRAPHED MATERIAL

Dr. W. A. Taylor, Chief of the Bureau, in Memo's 333 and 489, has requested that a standard heading be used on all mimeographed material of the Bureau which is disseminated to the public and where indication of authorship is desirable. There are two forms of headings which are acceptable and may be used. One of them should be used on mimeographed material prepared for general distribution to the public:

"FOUNDATION PLANTINGS

By Furman Lloyd Mulford, Associate Horticulturist, Office  
of Horticultural Crops and Diseases, Bureau of Plant  
Industry, U. S. Department of Agriculture."

\* \* \*

"UNITED STATES DEPARTMENT OF AGRICULTURE  
Bureau of Plant Industry

FOUNDATION PLANTINGS

By Furman Lloyd Mulford, Associate Horticulturist,  
Office of Horticultural Crops and Diseases."

Washington, D. C. and the date of issue should appear in the lower left-hand corner of the last page of the mimeographed article.

A M O N G O U R S E L V E S

Dr. J. F. Martin took a two-day trip to Mont Alto, Pennsylvania, on June 5 & 6, to confer with Pennsylvania officials on our work. He saw an infection on Mont Alto State Forest dating back to 1917. This infection, which Mr. Hodgkins had discovered, is at Glen Furney, only a few miles from that found last fall in Bieseckers Gap, some three or four miles north of the Maryland-Pennsylvania State line.

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Mr. Richard P. Fatzinger was appointed on May 15, as state leader, in charge of cooperative blister-rust control work in Pennsylvania.

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Mr. Paul B. Richmond resigned his position as blister-rust agent in New York on May 10.

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Mr. W. R. Snyder was appointed agent in Vermont on June 1, with headquarters at Townshend.

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Mr. A. E. Fivaz left the Washington Office on June 4th for Warrensburg, New York, where he will have his summer headquarters.

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Mr. J. E. Riley, Jr., of Connecticut, writes in letter of June 5: "Hurford was here in New Haven yesterday and the day before with a party of several officials and land owners from Rhode Island inspecting plantations of the New Haven Water Company. They left yesterday for Rainbow where they were to look over the Connecticut Agricultural Experiment Station plantings."

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A son, Joseph Slingluff Reiff III, was born on May 24th to Mr. and Mrs. J. S. Reiff. Congratulations! Mrs. Reiff was formerly File Clerk in this Office.

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Agent T. J. King of New Hampshire writes: "Announcing the birth of Robert Leo King, March 24th. All I need now is a scout and a foreman and I will have a crew of my own - 3 boys and 1 girl."

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Mr. Roy G. Pierce left Washington on June 10th for several weeks' work, in cooperation with the Forest Service, in West Virginia and Virginia. He will check the 1929 eradication work around the Forest Service Nursery at Parsons, W. Va., and scout for Ribes in the pine areas on the Shenandoah National Forest, Virginia, in order to make plans for Ribes eradication.



P U B L I C A T I O N S

Blister Rust

- Anonymous. "An Act to Amend Section Fifty-Seven-a of the Conservation Law, Relating to Control and Suppression of White Pine Blister Rust and Currant Rust." New York Legislature. This Act became a law February 17, 1930.
- Elliott, F. A. Blister Rust, in Nineteenth Annual Report of Oregon State Forester, for the Year Ending December 31, 1929, p. 28,29.
- Hubert, Ernest E. "Fighting Forest Diseases. The Counter Attack on Blister Rust, Larch Canker and Other Tree Enemies is Now in Full Swing." Four L Lumber News, April 1, 1930, Vol. 12, No. 10, p. 12,53,56.
- Lewis, Harry R. "Principal Features of State Blister-Rust Control Program." Third Annual Report of the R. I. State Department of Agriculture, for the Year 1929, p. 36-46.
- Riley, Jr., J. E. "White-Pine Blister Rust Control in Connecticut." Connecticut Agricultural Experiment Station Bulletin #314, April 1930.
- Ritter, L. B. "Control of White Pine Disease Starts." Fins, Feathers and Fur, No. 85, May, 1930, p. 26. Minn. Game & Fish Dept.
- " "Why Blister-Rust Control By the Minnesota Forest Service." The Smoke Screen, Minnesota Department of Conservation, April, 1930, p. 3,4.

White Pine

- Anonymous. "Wood Using Industries of New Hampshire. The New England Box Company." New Hampshire Forests, Dec., 1929, p. 12.  
(This Company uses considerable white pine in its work. It operates 8 box plants, one pail shop and a plywood factory.)
- Barton, Lela V. "Hastening the Germination of Some Coniferous Seeds." Amer. Journ. Bot., January, 1930, p. 315-342. (The seeds of six five-needled or white pines were tested.)
- Griffith, B. G., E. W. Hartwell and T. E. Shaw. "The Evolution of Soils As Affected By The Old Field White Pine - Mixed Hardwood Success in Central New England." Harvard Forest Bulletin 15, 1930.







# THE BLISTER RUST NEWS



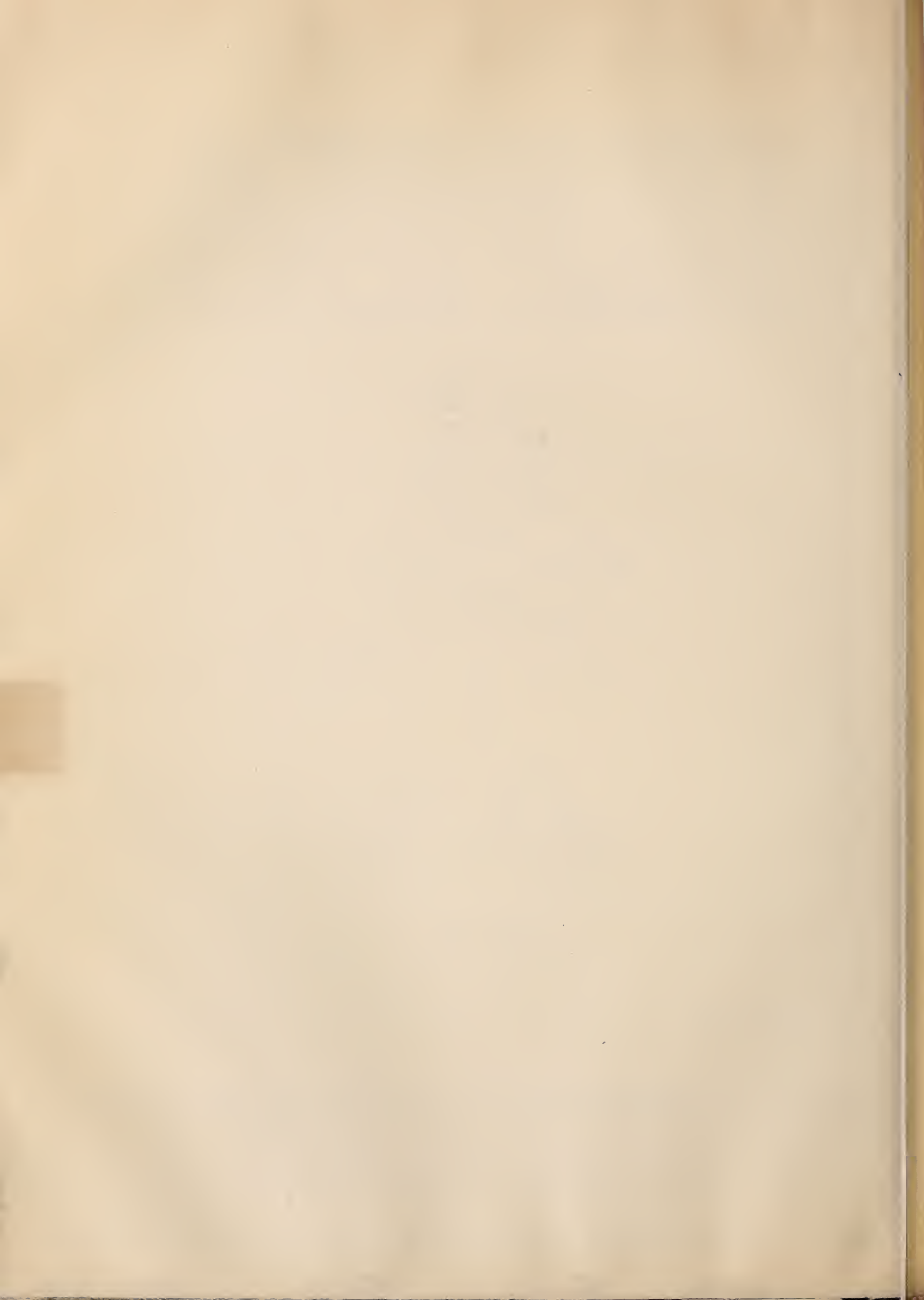
July, 1930.

Volume XIV

Number 7

U.S. DEPARTMENT of AGRICULTURE  
BUREAU of PLANT INDUSTRY  
OFFICE of BLISTER RUST CONTROL





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UNITED STATES DEPARTMENT OF AGRICULTURE  
BUREAU OF PLANT INDUSTRY  
WASHINGTON, D. C.

T H E B L I S T E R R U S T N E W S

Issued by the Office of Blister-Rust Control  
and Cooperating States.

Vol. 14, No. 7

July , 1930

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SECY. HYDE MODIFIES QUARANTINE AS TO WHITE-PINE BLISTER RUST.

A revision of the white-pine blister rust quarantine regulations governing interstate movement throughout the United States of white and other five-leaved pine trees and currant and gooseberry plants has been announced by the Secretary of Agriculture. The revision went into effect June 5, 1930.

The revision adds to the list of States and counties designated as infected with the blister rust the State of Montana and those parts of Oregon not heretofore designated. Surveys during the past year have revealed that infection exists in northwestern Montana and southwestern Oregon.

Other changes of interest to shippers include: (1) further restrictions on the movement of currant and gooseberry plants to cover leaves of these plants; (2) removal of the requirement of State inspection and certification with respect to white pine Christmas trees without roots, and to white pine branches, moved during November and December from noninfected States when the movement does not involve passing westward across the Mississippi valley quarantine line; (3) removal of certain special sanitation requirements so far as they applied to the shipment of five-leaved pines from New York to the New England States and vice-versa; (4) provisions for the separate inspection and certification of independent units of nurseries which grow and ship five-leaved pines under the nursery sanitation provision applicable to generally infected States; (5) a requirement that five-leaved pines shall not be moved from either Oregon or Idaho unless they have been grown from seed under the sanitation requirements heretofore prescribed for Washington and certain other generally infected States.

(Press Release, June 9,)

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PENNSYLVANIA NOTES.

The writer spent considerable time this season in north central Pennsylvania conducting a blister-rust control study. The rust is well established in this region at numerous points where there are close associations of five-leaved pines and Ribes. In restricted areas, R. rotundifolium and R. cynosbati are very numerous, and in such sites occur the heaviest rust infection of P. strobus, which the writer has ever observed.

This season has been favorable to early production of aeciospores and this factor, coupled with cool weather and frequent rains, has caused a much heavier and more general establishment of the uredinial stage on Ribes than was the case in 1929, a dry season.

White pines in Potter County, Pa., have suffered extensive injury which appears to be of insect origin. The terminal buds of trunk and main branches are killed. Growth takes place from auxiliary buds and results in a pronounced bushiness of the tree. The injury is most common on the upper half of the crown, but trees in the open tend to have all main branches affected. At least 75 per cent of the white pine stands in all areas examined in Potter County are thus attacked. The Office of Forest Entomology could not identify the cause of this trouble, stating it was a type of damage unfamiliar to them.

Blister-rust control work is being vigorously pushed by the State Department of Forests and Waters, and has made excellent progress. The work is under the leadership of R. P. Fatzinger, coordinated with the Bureau of Forest Protection directed by Mr. George E. Wirt. Mr. L. W. Hodgkins, of the Office of Blister-Rust Control, is assisting in the conduct of the Pennsylvania program. Mr. Hodgkins recently discovered a pine infection center near Mont Alto which apparently originated about 1917. This is the second area of infected pines found on the Mont Alto Forest, and both areas are close to the Maryland state line. Mr. C. A. Coover, of the Mont Alto Forest Research unit, reported finding infected white pines on Big Spruce Run in Somerset County. These infection areas were recently visited by Professor J. A. Cope, who is scouting for rust in the Southern Appalachians for the Office of Blister-Rust Control. He was accompanied by John A. Curry, Assistant State Forester of Maryland, who is assisting Professor Cope during his scouting in Maryland.

S. B. Detwiler.

SUMMARY OF CONTROL WORK IN MASSACHUSETTS

April to June 30, 1930

Thus far in the 1930 season, the field work in Massachusetts has progressed very satisfactorily. Cooperation has been met with on every hand, and resistance to the removal of cultivated Ribes has thus far been a negligible factor, altho this phase of the season's work is still ahead of us in most sections. This year our activities are more varied than ever before, since initial work is being carried on in some sections, reeradication work in others, and in still one other section we are concentrating on the eradication of the European black currant. If field conditions and cooperation continue to favor us, we should have another banner year.

Education and service: During the Ribes eradication season, the educational and service work in Massachusetts is usually restricted to the placing of exhibits; the distribution of printed information; and the intensive interview work incident to the securing of cooperation from individual property owners. Plans for the placing of the roadside exhibits have been somewhat curtailed, due to our inability to obtain the necessary signs that accompany these demonstrations. However, a number of displays that did duty last year have been revamped, and about ten of these are now in place for the information of tourists visiting that section of the State west of Worcester County. Since April 1, the agents have published 30 items in local newspapers, and have distributed 3,700 circulars of information. Interviews have been made with 474 individuals during the same period of time.

Regular control activities: From April to June 30 examinations have been made on 52,000 acres of land, on which 549,000 wild Ribes were found and uprooted. It should be pointed out that 295,000 of these wild Ribes were found on one control project in the town of Rutland in Worcester County where skunk currants seem to abound. Thus far in our work this season, only 1,600 cultivated Ribes have been destroyed. Cooperating property owners to the number of 470 and four State Departments owning pine lands, have expended the equivalent of just under \$2,900.00 for control work.

Black-currant eradication: In the southeastern part of the State; that is, in Bristol, Norfolk, and Plymouth Counties, the field men are concentrating in the location of black-currant plantings. In addition, several towns in Middlesex County have been scouted for black currants during inclement weather. In all, 31 towns have been canvassed this season to date, and in these 585 patches of Ribes nigrum have been located. In these plantings, 4,134 bushes were found.



Nursery sanitation: Little interest is being manifested by the Massachusetts nurserymen in the plan to enable nurseries to ship white pines which have been grown from seed under Ribes-free conditions. However, the Division of Plant Pest Control, is continuing with its plan to maintain Ribes-free the environs of those nurseries that are producing an appreciable amount of white pine stock. To this end reinspections have been made this season in the environs of three nurseries, and initial Ribes eradication work was recently completed in the surroundings of two additional lots in one of which new seed beds were established this spring.

Status of infection: It is rather difficult to make a brief statement regarding the state-wide status of the rust. Generally speaking, it has been our observation, that this spring aecia were about as abundant as they have been in recent years. One new area of infection was noted in the town of Bolton in Worcester County. This particular area was very useful in obtaining cooperation in that particular section. The uredinial stage of infection has not appeared to be quite as intense as in some years, except in the immediate vicinity of trees that have "fruited" abundantly this year. Up to July 9 no report of the appearance of the telial stage has been received.

July 10,

C.C. Perry, Massachusetts

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BLISTER-RUST CONTROL IN MINNESOTA\*

I have finished eradication of wild bushes at the Cass Lake Nursery, and have located all cultivated bushes within the 1500 foot zone and all black currants in town. The Federal Forest Service will remove these latter this summer after the fruit has ripened, and will arrange for compensation.

Stewart is working in southern Aitkin County now, while Dahl has a crew at work in Stanchfield.

I believe we are going to find more blister rust in our infected areas than I thought present. The Stanchfield area is heavily infected. We found one tree last night with 14 cankers. The squirrels in this locality are very well educated as to the food possibilities of blister-rust canker tissue.

I have just received a note from the county agent at Duluth to the effect that he found several infected trees 10 miles northwest of Duluth.

We have found the pine owners in the areas that we have worked in so far to be very much interested in forestry and willing to cooperate in blister rust control. Our only difficulty is in securing more than one or two-man crews.

\* Excerpts from letter of L. B. Ritter of June 28.

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BLISTER RUST NOTES FROM PENNSYLVANIA

Disease Found on Pine in Somerset County

The blister rust was found on the Linn Division of the Forbes State Forest in Somerset County along Big Spruce Run, on both pine and Ribes. The pine infections examined were of 1927, 1926 and possibly of 1925 origin. This is the first report of the disease on pine in Somerset County, and was made by C. A. Coover of the Penna. Department of Forests and Waters.

Blister Rust on Western White Pine

The blister rust was found on western white pine (*Pinus monticola*) in the Elk Lick Plantation, Potter County, in the Susquehannock District.

Eradication Crews

Eradication crews have been working in six forest districts the past month on State plantations.

Personnel Items

Mr. L. W. Hodgkins is with us again this year helping us train scouts and crew foremen as well as scouting new areas.

Mr. R. M. May of the Dept. of Forests & Waters has been assigned to blister-rust control work with headquarters at Brockway.

Mr. R. C. Hertzler and Mr. J. J. Gackenbach have been appointed as temporary agents with headquarters at Brockway.

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BLISTER RUST CONTROL IN THE EMPIRE STATE.

Readers of the Blister Rust News will not be bored to any great extent in reading news items from New York this month. News articles are much in the minority. Whether that is a good or bad omen, we should not predict. The Office naturally assumes it a good omen, interpreting the situation in the light that the B. R. Agents are so confoundedly busy computing acreage covered, that time was not available for gathering news material. We are never busy in this Office, and therefore it is necessary to let the readers know that New York State is doing some blister-rust eradication work.

Nursery Sanitation

An unusual amount of stormy weather has so far been a serious handicap. Nevertheless, some areas have been protected. The protective zones around the State-owned nurseries have been covered this year at a much earlier date and at less cost than formerly, this in spite of the fact that a wider



protective border was worked than heretofore. A 1500 foot protective zone has now been established around all State-owned nurseries. While a large number of Ribes were uprooted, possibly 85% were found outside the former protective zone.

#### Other Work

Work on individually-owned property is progressing fairly well. White-pine property owners however have a new alibi that is proving detrimental in eradication work. The recent stock market decline, they claim, prevents financial contributions to blister-rust control work.

Woodland type maps, as far as they have been prepared are playing an important part in this season's campaign. We expect later to have some further data in connection with the value of woodland type maps to offer.

Two men of long experience in blister-rust control work have been chosen to check in all districts. We hope, with the assistance of the agents, to put in a general check of all areas that are covered this season.

H. L. McIntyre - New York

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#### RIBES SURVEY IN THE SHENANDOAH NATIONAL FOREST, VIRGINIA

The writer in cooperation with various officers of the Shenandoah National Forest and with Mr. L. S. Gross of the District Office, made an intensive survey of Ribes conditions in parts of the Deerfield and Dry River Ranger Districts known to have white pine.

Particular attention was paid to the tributaries of the Cowpasture River, and to the headwaters of Calfpasture River in the Deerfield District, and to the headwaters of North River, to Tillman Run, Briery Branch, Hone Quarry Run, Germany River, Cold Spring River and Camp Rader Run in the Dry River District.

The Forest officers had worked Hone Quarry Run this spring, following the completion of spring planting. This area was quite thoroly checked by Asst. Forest Ranger Plaistridge and the writer. In only one locality were Ribes found in quantity and this was a rocky area about 1/4 acre in extent, where seedling Ribes were abundant.

Many of the valleys surveyed this spring revealed few if any Ribes, though in others, such as Briery Branch, Tillman Run, Nelsons Draft and Bensons Run sufficient Ribes were located to make it advisable to work these areas within the next few years.

The Ribes species found in connection with the white pine are all gooseberries, namely, R. cynosbati, R. hirtellum and R. rotundifolium.

Roy G. Pierce.

PROGRESS REPORT ON THE MASSACHUSETTS EXPERIMENTS RELATIVE TO THE  
CHEMICAL ERADICATION OF RIBES.

During the field seasons of 1928 and 1929 small-scale experimental spraying was carried on in Massachusetts to determine the effectiveness of this method of eradicating Ribes principally our eastern skunk currants. A progress report indicating the preliminary results of the 1928 experiments was included as an item in the September and October 1929 issues of the NEWS (see volume XIII Nos. 9 and 10).

In May of the current year, a further check was made on the principal plots sprayed in July of 1928 with a solution of sodium chlorate. This check showed that the skunk currants had come back very strongly and were making good growth. On one of the plots especially, there was as much live stem as on the plot originally. The spray had killed back the other undergrowth and had allowed the skunk currants to grow even more thriftily.

In continuing the experimental work in 1929 four plots, each twenty-five feet square, were located in Hubbardston, Massachusetts in July 1929 on which to try out different chemicals. These plots were adjacent and located in a rocky run supporting a growth of alder. The undergrowth was fairly dense and composed of skunk currants and ferns. One of these plots was sprayed with a solution of sodium chlorate and magnesium chloride, another with calcium chlorate (Commercial "Atlacide"), and the third with a complex copper salt which had been used successfully on western Ribes under laboratory conditions. The fourth plot was left as a check plot. Eight gallons of chemical were sprayed on each of the three plots.

This same experiment was repeated on four other plots in the same area in the Fall of 1929. These plots were sprayed on September 11.

Checks made during May 1930 show the following results:

Plots Sprayed July 15, 1929

<u>Plot Number</u>	<u>1</u>	<u>2</u>	<u>3</u>
Chemical used	Sodium chlorate Magnesium chloride	"Atlacide"	"Complex Copper Salt"
Original live stem	1512'	1387'	2163'
Live stem on first Check	2'	0	213'

Plots Sprayed September 11, 1929

<u>Plot Number</u>	<u>5</u>	<u>6</u>	<u>7</u>
Chemical used	"Atlacide"	"Complex Copper Salt"	Sodium chlorate Magnesium chloride
Original live stem	826'	278'	921'
Live stem on first check	30'	86'	1-1/2'



The results obtained from the use of the sodium chlorate and magnesium chloride solution and also from the "Atlacide" are very encouraging, but it is felt that a longer period of time will have to elapse before definite conclusions can be drawn.

In cooperation with Agent Doore, a small plot of wild black currants (Ribes americanum) was sprayed with a solution of sodium chlorate to test the action of this spray on this particular species of Ribes. While no exact data relative to live stem was recorded for this particular plot, ocular observation this spring indicates a most satisfactory "kill" on this species. Out of about 30 typical clumps of Ribes americanum on the plot, three were producing weak sprouts at the base. In three other clumps, one of the original canes was still alive in each clump. The other clumps were apparently completely killed. Here again, a longer period of time will, of course, be required before arriving at definite conclusions.

It is planned to continue the experiments this season with the idea of giving more attention to the so-called pH of the chemical solution used in the spraying, the pH of the solution relating to the degree of acidity or alkalinity of the solution used.

July 10,

Wm. Clave - Massachusetts

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#### NEED FOR NURSERY SANITATION DEMONSTRATED

The need for the eradication of Ribes in the vicinity of white pine nursery stock was quite effectively shown in this district this spring. One additional nursery lot was examined for Ribes and although the nursery is located in a section noted for its sandy soil and relatively Ribes-free conditions, three definite patches of wild Ribes were found within the 1500 foot protection zone. Cultivated Ribes were found in four locations in this zone, but fortunately no plants of Ribes nigrum existed within the one-mile zone.

During the progress of the Ribes sanitation work four 1922 pine infections were noted in three separate locations outside of the nursery; one to the west, one to the south, and one to the northeast. No infection was found on the young forest planting stock actually in the nursery blocks, but the prevalence of Ribes, and the finding of infection on native pine nearby, showed quite conclusively that sanitation work in this particular instance was imperative.

E. M. Brockway - Mass.

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### RHODE ISLAND CONCENTRATING ON BLACK-CURRENT DESTRUCTION

Our four-man crew is now completing the sixth township worked this season. All European black currants in these areas have been eradicated. The few outstanding pine infection areas in Rhode Island are under control. Examination of land for wild Ribes is and has been needed for some time, but all efforts are being concentrated on black-currant eradication at present.

The June Blister Rust News had an article on Ribes-eradication tools. After a year's experience in the eradication of European black-currant bushes, we find that the medium weight adz is the most practical in making a speedy and thorough job of pulling up the bushes with the roots, and leveling the soil. The adzes in use have four inch and four and one-half inch blades.

A. W. Hurford.

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### METHOD OF CARRYING ON BLACK-CURRENT ERADICATION IN RHODE ISLAND

The work is carried on by a four-man crew, including a foreman. They scout townships systematically for European black currants. Upon locating bushes the foreman is notified and he personally interviews the property owner, explains the work, gives out the literature and presents the owner with the eradication notice. He does this with as much diplomacy as possible, attempting to get the willing cooperation of each individual concerned. We also use a black-currant warning poster, and with news articles, etc. the work is often known of before the crew visits the area. The crew eradicates the bushes for the owner without charge, if his willing consent is obtained within a given time. We find that if the owners eradicate their own bushes they often cut off the tops and leave the roots which sprout up again.\* The crew travels in a one-ton truck, with canopy body, and all bushes eradicated are removed and placed on material in dumps, etc. where they will not take root.

The work as carried out according to the above plan, given in brief, has been successful to date, and all bushes have been removed with very little trouble. If any of our material is desired, copies will be sent gladly. Also I shall appreciate the exchange of ideas on the work.

A. W. Hurford

\* Editor: Referring probably to roots with pieces of crown attached.



RHODE ISLAND PRINTS CULTIVATED BLACK-CURRENT ERADICATION NOTICE

To Property Owner:

Cultivated black currants (Ribes nigrum L.) are dangerous host plants of the white pine blister rust, a fungous disease destructive to white pine. Since white pine in Rhode Island is much more important to the welfare of the people than cultivated black currants, the State Commissioner of Agriculture, under authority of law, has declared the cultivated black currant a public nuisance and prohibits the possession, transportation, planting, propagating, selling or offering for sale, plants, roots, scions, seeds or cuttings of these plants within the State.

Cultivated black currant bushes have been found on your property and under authority of Chapter 282, Section 14, of the General Laws of Rhode Island revision of 1923, you are hereby notified to pull up and burn or otherwise destroy all cultivated black currant bushes which you may possess or have growing on land which you own, or to permit agents of the State Department of Agriculture to pull up and destroy said bushes. No charge will be made for immediate pulling of bushes, but if agents of the Department are required to return later to do the work the cost of same must be certified to the State Treasurer for collection, and must be paid by you. Your prompt cooperation in this very necessary work for the protection of the valuable white pine stands of the State will be very much appreciated.

A. E. Stene, Chief,  
Bureau of Entomology and Plant Pest Control  
R. I. Department of Agriculture.

Harry R. Lewis, Commissioner,  
R. I. Department of Agriculture.

Edit: Mr. Hurford writes concerning the use of these notices: "One of these is presented to each property owner upon locating European black currants on their land. Until recently we have used a mimeographed form, but find the printed one much more official in appearance, as well as being more effective."

Note to State Leaders - A copy of this printed notice may be secured by writing Mr. A. W. Hurford, Room 310, State House, Providence, R. I.

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MAINE PRODUCED PINE TREES RUNNING 1,000 BD. FT. PER TREE

A short time ago I was talking with a man, who some seven or eight years ago made the drive down the Saco River for the Deering Lumber Company, Saco, Maine. He told of how the buyer tried to buy a pine lot from a lady in Sweden, Maine. She would not sell the lot, but the buyer did induce her to let him have 100 trees. The 100 trees surveyed out 100 thousand feet of lumber. I understand that these were not picked as being the best, but a good average of the lot.

G. H. Kimball, Me.

### EFFECTIVENESS OF BLISTER RUST ERADICATION IN VERMONT.

From a summary made of the results on several areas of white pine one can readily see the effectiveness of blister rust control.

On 13 white pine lots which were eradicated from 1921 to 1925 there were 904 blister rust cankers which originated before eradication and only 21 after eradication. These were one acre plots which were studied.

On a like number of acre plots laid off in uneradicated pine lots in the same towns as the eradicated areas, the following results were obtained. There were 885 cankers which originated before currant and gooseberry eradication on the comparable plots described above. There were 502 cankers which originated after the dates that the comparable plots above were eradicated. Eradicated areas showed an increase of less than 3% of new blister rust cankers while the unprotected areas showed an increase of 36%.

(Extract from the "Green Mountain State Forest News, Montpelier, Vt., June, 1930.)

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### TIMBER GROWING AND LOGGING PRACTICE IN THE NORTHEAST

The recently published bulletin by Dana with introduction "Timber Growing and Logging Practice in the Northeast\*", is a mine of information, or better, a storehouse from which our B. R. men in that region should continually draw on for supplies. If the bulletin is too bulky to read through completely (112 pages), it will certainly pay to "browse" through it.

Particular attention is called to that section dealing with WHITE PINE TYPES, extending from Page 56 to 74. The headings give indication of the value of this part of the bulletin to our men: -

- Natural Reproduction
- Methods of Cutting
- Clearings and Thinnings
- Slash Disposal
- Disease and Insect Control
- Yields

Of interest also to those who desire to do more extensive reading on the general subject is the bibliography of forty-nine titles, appearing as "Literature Cited."

Roy G. Pierce

\* U. S. Dept. Agri. Tech. Bull. 166, March, 1930



PROGRESS REPORT FROM MICHIGAN.

Mr. David J. Stouffer, Michigan State Leader writing under date of July 11 states that "We now have 24 men on the job every day, and seem to be accomplishing worthwhile results.

In the Lower Peninsula a crew is at work in the Hardwood State Forest Alpena State Forest, Hartwick Pines State Park and at Camp Hayo-Went-Ha. Five men each are on the State Forests and three men are at the State Park. Another crew of 3 men is now at work carrying on Ribes eradication in Grand Traverse County.

In the Upper Peninsula ten men are on black-currant eradication and doing fine work. Found telial stage on wild gooseberry, R. cynosbati today (July 11). Do not know how long it has been apparent. The amount seems to vary considerably with the individual, from a fairly heavy infection to none at all. John Kroeber informs me that near the Ralph infection area, he can count at least 6 species within 10 feet of his standing spot."

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Help or Hindrance - Cooperation or What?

After considerable arguing for cooperation, the pine owner, Mr. B\_\_\_\_\_ agreed to furnish us a man. A day or so later the following letter came from the foreman: "Was up to see 'our friend' B\_\_\_\_\_. He gave me his hired farm hand whose name was Sam. He wouldn't tell me his name so I got it from Mrs. B\_\_\_\_\_ who didn't even know his last name. Well, he was one big farce so far as I'm concerned, and after working all morning and accomplishing very little I gave him up as hopeless. I'd tell him several times how we were to work this ground and tried to keep him near me but he would wander about 20-30 feet away, then he'd stop and gaze up in the pines for young crows. After one strip he had to sit down and rest. When I asked him what was the matter he said, 'What do you t'ink? I get up at 4:30 in the morning.' Then he forgot to count his bushes after I had told him to keep count. I wouldn't take the responsibility of having that pine checked after such help."

When Sam leaves for a better job maybe Mr. B\_\_\_\_\_'s new hired man will prove a better Ribes hound.

H. G. Strait, New York.

WHEELER'S CREW PULLS OVER 70,000 RIBES IN HATFIELD, MASS.

An interesting news item appeared in the Hampshire Gazette of Northampton, Massachusetts on May 22, 1930 concerning the protection of the pine woodlands in Hatfield. Agent R. E. Wheeler was carrying on the Ribes eradication in the town. He writes:

"The average land owner does not consider that he has any pine until it becomes of merchantable size. He does not consider the little seedlings, which will eventually become merchantable timber. It is surprising to realize how much potential pine land may be found in the northwestern part of Hatfield. Work was started the first of May on the Hatfield water sheds, and considerable eradication has been done on new land purchased by the water department. Over 70,000 gooseberry bushes have already been eradicated."

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AGRICULTURE DEPARTMENT COOPERATES WITH INTERIOR DEPARTMENT  
IN PROTECTING WHITE PINES IN MT. RAINIER NATIONAL PARK.

A sixteen-man hand eradication crew under the supervision of M. C. Riley will start work June 16 in Mt. Rainier National Park removing Ribes from the four principal white pine areas in the Park.

C. C. Strong and Phil Simcoe conducted a pre-eradication survey of these areas in the fall of 1928. While none of the pine is of commercial value, it does have a high aesthetic value and for that reason the Department of the Interior is furnishing funds to save the Rainier pines. The Office of Blister-Rust Control will furnish the technical supervision.

No chemical work will be done on any of the park areas, although several Ribes concentrations would warrant their use. The job will be primarily in stream type although some upland will have to be covered.

The principal Ribes species to be eradicated are Ribes bracteosum, R. lacustre, R. laxiflorum, R. sanguineum, R. divaricatum and R. viscosissimum. There may also be some R. triste present although none was seen during the pre-eradication work.

(Extract from Western Blister Rust News Letter, June 15, 1930.)

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NURSERY SANITATION AT PARSONS, WEST VIRGINIA

The Forest Service nursery on the Monongahela National Forest at Parsons, W. Va., is growing white pine which must be kept clean, that is, free from the blister rust. The stock is shipped out to several of the central Appalachian States.

Ribes eradication work was carried on for 1500 feet around the nursery last year, and continued this June. In some directions from the nursery the protective zone is extended beyond 1500 feet, because of configuration of the ground, and wind currents. That there is need of yearly inspection around such nurseries, at least where Ribes are growing wild and profusely, is my belief. Especially is this true, where the initial work is carried on with one or more untrained men.

This year there were destroyed 394 bushes, all but one being wild gooseberries. 94 of these Ribes were on new areas, not worked previously. These figures are in contrast to the 3190 wild bushes found in 1929, and the 73 cultivated bushes pulled previous to this year. Part of the heavily wooded, steep slopes of Turkey Knob, which rises 750 feet above the nursery, and which is included in the protective area, were not worked due to the great density of ground cover.

Roy G. Pierce

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NEW YORK'S TREE ORDER BLANK REQUIRES RIBES ERADICATION

The order blank used by the Conservation Department in the spring of 1930 specifies blister-rust control in paragraph 5:

"5. In case of white pine, I agree to remove all currant and gooseberries, both wild and cultivated, from the area to be planted and from a space approximately 900 feet surrounding the plantation, not later than June 1st following the planting."

Some such provision as this has been in New York's order blank for a number of years.

Note to State Leaders: It is very possible that in your State such a paragraph on protection of newly planted white pine is not used by the State Forester in the order blank for forest trees. Securing such a provision as this would seem to be a valuable addition in helping control the rust and it would be of distinct educational value as well. Some may think the use of such a warning on order blanks would discourage the planting of white pine. This apparently is not the case in New York State, where millions of white pines are planted by private owners each year.

R. G. P.

FROM HUNTED TO HUNTER.

THE USE OF PRISON LABOR IN RIBES ERADICATION IN MASS.

A crew of 6 State prisoners is being used to eradicate Ribes from 900 acres of the State prison camp property at Rutland, Mass. There are 5 men in the line and the best man of the six is used behind the line to help the foreman with the checking. The Ribes are concentrated in damp runs and swampy areas and there are enough to keep the men pulling steadily all of the time they are in the field. The crew may not be working as efficiently as paid labor but they are doing better than expected.

If these men take a lesson on concealment from the Ribes, there is no reason for them ever again coming within the toils of the law.

William Clave - Mass.

Note: This is the second instance of the use of prisoners on control projects in Massachusetts. During the 1929 field season, Agent Brockway secured the cooperation of the Superintendent of the Prison Colony in the Town of Norfolk and a crew of trustees was used in the eradication of Ribes on the 964 acres on the reservation. Unlike conditions prevailing in Rutland, however, wild Ribes were not abundant and the records indicate that only 1700 were found on the whole area. The count each day in Rutland would exceed this figure and the project has been under way now for several weeks. The answer - SKUNK CURRANTS.

C. C. Perry - Mass.

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CALLWARD DOES A GOOD TURN FOR BLISTER-RUST CONTROL

Mr. W. J. Endersbee in letter of June 24th writes that St. Lawrence University has done a bit for blister-rust control through Floyd M. Callward, the Forester.

"St. Lawrence broadcasts every noon from 12:30 to 1:30, and Tuesday at 12:45, Mr. Callward gives a forestry talk for ten minutes. On May 20, his topic was white-pine blister rust. As a result of the talk, he received several letters and telephone calls for further information and specimens for identification.

"The people in this north country are fast becoming forest conscious, and St. Lawrence University is taking a very active part in this development."

It will be remembered that Mr. Callward was formerly our State Leader in Vermont, and Mr. Endersbee was on the work in Berkshire County, Massachusetts.



FIRST RECORD OF TELIAL STAGE IN MASSACHUSETTS

1930 FIELD SEASON.

July 10 Amherst - Hampshire County, on Ribes nigrum. Found by Agent Wheeler.

July 11 \*Sudbury - Middlesex County, on Ribes vulgare.

\* It might be of interest to note that the Ribes in question were found on the "Wayside Inn" Estate of Henry Ford, Esq. Mr. Ford is cooperating in control work on his holdings in the Town of Sudbury, Mass.

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BLISTER-RUST NOTES FROM NEW YORK

Telia

"Telial appeared today, June 25, on the Ribes nigrum bushes I am making use of in the work here at Warrensburg."

Ribes Infection Heavy

"The infection on Ribes this year is much more intense than it was last summer at this time, at least on the cultivated reds, black currants, and wild gooseberries that I have observed."

Ray R. Hirt.

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FORMER BLISTER-RUST INSPECTOR RETAINS HIS INTEREST  
IN CONTROL WORK.

While recently in conference with the Tree Warden of Plymouth, Massachusetts, Mr. A. L. Raymond, I found that he was employed on blister-rust work during the early stages of control work back in 1917. During that year Mr. Raymond made a census of the cultivated Ribes in the town of Plymouth, listing all owners and the number and kind of Ribes on the property, and much to my surprise, he still carries a copy of the census in his car. He also had a goodly supply of blister-rust circulars and told me that he seizes every opportunity to put in a good word for blister-rust control work and the necessity for the removal of Ribes in pine-growing sections. What interested me in particular was the fact that after a period of 13 years, Mr. Raymond was carrying a copy of the report of his blister-rust work of 1917. That is what we might call a continuing interest!

May 27,

E. M. Brockway, Mass.

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A BREEZY LETTER FROM OUR COUNTRY CONTRIBUTOR

Hello Agent!

Glad to see you this fine morning. Got a minute? All right, wait 'till I pull Lizzie over into the ditch so's that truck hauling wood can stick to the crown of this old road. There now, that leaves plenty of room.

Say, Agent, you sure had some fire up here this spring, didn't you! Helped fight it two days yourself, eh? That's the spirit!

Gosh! Isn't this lot a sight now, tho! Must have burned over more'n a hundred acres. This was such pretty young pine, too, last time I saw it when you were eradicating here a couple years ago. Now, they're chopping these little sapling pines for firewood! But for someone's carelessness, twenty years more would have seen some nice sawlogs on this place.

Will it come back into pine? Sure it will, this is a good pine site and there's a few seed trees that were missed by the fire; besides, the chances are that some of last year's good seed crop escaped the fire in the damp places. Of course, it's liable to come back into Ribes, too -- that's where you come in again, Agent.

Hop over the fence, and let's take a close look at the ground and see what's coming up from the ashes. Must be nearly three months since that fire, and we should be able to find a few indications of what will happen. Near that rock out-crop is a likely place.

A lot of little seedling plants of something or other over there? I'll come right over!

No, those are not Ribes; the cotyledons are too blunt. I think they're blackberry seedlings. And the cots on those there are nearly round, probably those are strawberry or maybe violet seedlings. Look! There is a white pine seedling, with the seed coat still capping the needles. Here we are, tho, right at something suspicious. See that seedling with nothing but the two tapering cotyledons? I believe that is a gooseberry. Here's another, with a small leaf well started above the cots. Recognize the leaf, don't you, old timer? No doubt about that one being a Ribes. Come in here next summer, and you'll find 'em much easier. They'll probably be Ribes seeds sprouting here next year, too, and perhaps a few years after next. Ordinarily takes about three growing seasons for all of them to germinate following a fire.

That's the idea, look along that stone wall. It was heavily shaded



before the fire but is getting plenty of sunlight now. A large bush, you say? That is a healthy bunch of sprouts; one of them must be fourteen inches high. Get your fingers under the old root they're coming from and lift it out so we can look at it. Boy! Now isn't that some old crown! Must have had 500 feet of stem, years back before the brush grew up along that wall. However, the only indication I see of recent live stem, other than the sprouts, is that little burned stub there. Probably when your crew worked this lot year before last, the only sign above the ground of that large root was a single, slender, trailing stem with a half dozen leaves at the tips. Can't expect a crew to get all plants like that.

Now, however, with the shade gone, this old root sure took a new lease on life. I presume that next year that plant would have been bearing fruit -- less than a year and a half after the fire. This plant would have spread a lot of infection by next fall, too, had the fire left much pine near here.

Reeradicate this area next year? Depends on how many of these sprouting roots there are on it. If you find them quite common over this lot, it would be a good idea to put a crew over it early next spring for the sole purpose of eliminating these sprouting plants before they begin to bear fruit. No, there's no need of expecting to do anything with the seedlings next year, they won't average much more than four or five inches high.

Whether or not you eliminate the sprouts next year, this burn will need a thoro cleaning four or five years from now, if you are going to save any of those little white pine seedlings for the next stand. By that time, a lot of the seedling Ribes will have been eliminated naturally, and many of those destined to become dangerous will have reached a size readily seen by the average crew-man. Wouldn't wait much more than five years, tho, for the infection will mount rapidly among the young pine, and what may be worse, the Ribes may get to the age and size when they begin to bear fruit. Chances are that the fire and the subsequent germination will about exhaust the supply of Ribes seed stored by nature in the forest floor, and the prevention of further seed-bearing on the area should help keep down the Ribes for a long time to come.

Well, let's climb back to the cars. By the way, what was the date of this fire? April 26 and 27, you say. Do you suppose that four or five years from now you will remember even the year this fire occurred? And the year of occurrence of every other fire in your district? Perhaps you will, but what good will that be to the Agent in charge here five years from now if it does not happen to be you? Fairness to your job requires a written record of such information. It would be a simple matter to keep up each year a Fire Record for your district, giving the location, extent, and date of each burn, as well as any other pertinent information as to the owners, when area was previously eradicated, and the amount and specie of Ribes removed. Now, it is easy to see the exact limits of this burn. Five years from now, when the area is all green again, it will be much more difficult. A large scale map of your district with

the burns plotted to scale on it soon after they occur, will prove a very useful Fire Map, not only as a supplement to your written Fire Record, but also as a guide for the reeradication crew four or five years hence, when you direct the foreman to rework carefully the burned portion of So-and-So's lot.

There, Agent, we've spent enough time on this for such a nice day in the midst of our busy season. The next wet spell, however, should give you a chance to use whatever ideas you may have gotten from our observations this morning.

So'long, Agent!

Yours faithfully,

Ole Ribee.

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"COLLECTED" WHITE-PINE STOCK INFECTED WITH BLISTER RUST

The possibility of the spread of the white-pine blister rust through the shipment of native white-pine stock, was effectively illustrated in a recent occurrence in Massachusetts. In a response to a request for an inspection of a newly established commercial nursery, the inspector found that the owner had attempted to "break into" the nursery stock business, by collecting local native stock from adjacent woodlands and pastures. In the collected white-pine stock the inspector found a number of specimens actually infected with the blister rust. Upon further investigation, it was found that the stock had been collected in an area where blister rust had been located during the regular control program in that particular town. The diseased stock was destroyed, and the owner of the new nursery was advised to use extreme caution when collecting native specimens of white pine.

C. C. Perry - Mass.

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COMPTROLLER GENERAL'S DECISION

(A-31014)

An employee who arrived at his official business station at 6:35 p.m., in returning from an official field trip, is not entitled to reimbursement for the cost of a meal taken after arrival, under the Standardized Government Travel Regulations.



BLISTER-RUST NEWS ITEMS

A rough analysis of the material in the "News" for the first six months of this year, exclusive of such items as office news, publication notices and personals is shown in the following table.

Period	Per cent of Articles		Per cent of Pages	
	Original	Culled	Original	Culled
January to June 1930	66	34	63	37

The contents of the "News" was found to be made up of original articles or pages of original material supplied by contributors in the proportion of 66% and 63% respectively. The remainder of the news items were culled from other publications. I would like to see the amount of culled material reduced to 10% or less. With a large field force of permanent and temporary employees it ought not to be difficult to obtain enough original news items to make up 90% of the material. Temporary as well as permanent employees should send in news. The cooperation of everyone is needed to make the "News" serve its readers most effectively. We would also like to hear from former "blister rusters." There must be numerous every day happenings in your field work that would make interesting reading. Send in such material even if you don't think it suitable or well written. If it can be used, the editor will fix up the grammar, if not, it can be left out. Now take a glance at the rather interesting table below showing the per cent of articles contributed by the permanent field workers during the past 6 months.

Period	Number of Contributors	Percentage of Articles Written	Number of Articles per Contributor	Percentage of Employees Contributing
	3 employees	32	9 to 17	6
January	8 "	31	4 to 6	16
to	13 "	26	2 to 3	26
June	12 "	11	1	24
1930	14 "	0		28
Total	50 "	100%		100%

Two things stand out in this table, namely, that 3 employees or 6% of the regular field force contributed about 1/3 of the original articles and that 14 or 28% did not contribute a single item. One article in 6 months was written by each of 12 men, 2 to 3 articles by each of 13 men and 4 to 6 articles by each of 8 men. Let's remedy this matter right now! We want the field men to contribute 100%. Don't let the other fellow do it all. If each one will do their share the "News" will show the results of their efforts. If you don't believe it, just read this issue, over 90% original. Such things as the following provide good material:

Acreage eradicated of Ribes  
Number of cultivated black currants eradicated  
Number of cooperators  
Number of wild Ribes destroyed  
Discovery of a new or heavy infection on pines  
Finding blister rust on species of pines other than P. strobus  
Finding a very old infection in new or old infection area  
Discovery of blister rust in a new locality, town, county or state  
Cooperative control work with Boy Scouts and local agencies  
Improved eradication methods  
New tools used successfully in Ribes eradication  
New location or extension of range of Ribes species  
Better means of distinguishing Ribes species  
Data on fruit-bearing of Ribes species  
New educational ideas  
Demonstrations that have worked  
Pine owner doing his own Ribes eradication after receiving circular  
or hearing radio talk  
Comparison of first eradication with subsequent working giving definite  
figures for both workings  
Date of appearance of different stages of rust each year in your lo-  
cality  
Etc., etc.

The above is only illustrative of the many things which make up news.  
Let's all cultivate our "news" sense; but don't stop there, we need action!

- - - - -

"BILL" ENDERSBEE NOTES B.R. ON RIBES IN OSWEGO COUNTY, N. Y.

It may be of interest to you to know that I have not yet seen any blister rust on pines in Oswego County, although I have been watching out for it since I have been here. I do not find many Ribes, except skunk currants in the swamps. I found uredinia on these on June 11, and have been picking it up ever since but in no great abundance. Last week, on June 26, I found some telial spores. It occurred to me that both these dates are somewhat earlier than usual, at least earlier than in most parts of New England.

W. J. Endersbee, N. Y.

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Errata in June Issue, Page 170.

Massachusetts was credited with the town of Winchester in the title of the article "White Pine Comes Back in Winchester, Mass." This particular Winchester is in Cheshire County, New Hampshire. Our apologies to both States.

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A M O N G O U R S E L V E S

Mr. J. A. Cope, Extension Forester, Cornell University, Ithaca, N. Y., has undertaken a survey for the blister rust in the middle Appalachian States, including Maryland, Virginia, West Virginia, Kentucky, Tennessee and North Carolina. That this survey is timely is shown by the fact that the blister rust has been found on pine in Franklin and Somerset Counties, Pennsylvania, both being in the southern tier of counties. Mr. Cope was a visitor at the Washington Office on July 2 and 3.

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Messrs. S. B. Detwiler, J. F. Martin and L. W. Hodgkins were present at Mont Alto at the opening of the Pennsylvania Forest Research Institute on June 5. The Institute is the only one of its kind maintained by a State Department of Forestry in the United States. The administration of 1,500,000 acres of State forest lands presents countless problems that can only be answered through research.

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Mrs. R. B. Lanham, formerly Leolia Halper of the Washington Office, visited her old friends in the District with her 4-months old baby, Virginia May.

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Mr. L. B. Ritter, State Leader in Minnesota, has an interesting popular article in Fins, Feathers and Fur (Minn.) for June, 1930, entitled "Speaking of a Woodlot."

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Eradication Assistant Meets Lynx While Scouting

While scouting in the town of Thurman, eradication assistant, Dan Hewitt, came face to face with a Canadian lynx. The animal, about as much surprised as Dan, crouched snarling, about thirty feet away until Dan raised his Ribes hook. Mr. Lynx made two or three jumps and faded from the picture.

It was a few minutes before Hewitt got his Ribes eye working again and he says he does not like the thrill he got. You will remember in an article last winter in the Blister Rust News, I made a statement that Warren County was getting wild.

E. G. Woodward, New York.

P U B L I C A T I O N S

Blister Rust

Hahn, G. G. A Physiological Method of Distinguishing *Cronartium Ribicola* and *Cronartium Occidentale* in the Uredinial Stages. Journ. Agr. Research, Vol 40, (1930) No. 2, p. 105-120. Seeking to establish physiological differences between the white-pine and pinon blister rusts, which are morphologically very similar in their uredinial and telial stages, various foreign *Ribes* species and horticultural varieties were inoculated with white pine of both rusts. Of 48 garden currant varieties inoculated with white-pine blister rust, only 45 proved susceptible. Of 41 varieties inoculated with pinon blister rust, only 4 were infected, and these to a negligible degree. Fay's Prolific proved an especially satisfactory differential host. Three varieties, Franco-German, Holland, and Victoria, were immune to both species of rust. *R. nigrum* developed only scant infection with pinon blister rust, the Champion variety being most susceptible and Blacksmith and Boskoop Giant immune. Of 12 foreign *Ribes* species tested, only 2, *R. tenue* and *R. fasciculatum*, were susceptible to white pine blister rust and immune to pinon blister rust. No reliable tests for differentiating the two rust species in the telial stage were established, although trained observers could detect differences.

Martin, J. F. Report on White-Pine Blister Rust for 1929. The Plant Disease Reporter, Dec. 30, 1929, p. 368-369. Map showing spread of blister rust in the West, 1922 to 1928, inclusive.

Riley, Jr., J. E. Nursery Sanitation Zones - White Pine Blister Rust Control. Connecticut Agricultural Experiment Station Circular #70, May, 1930.

Wyckoff, S. N. Development of Blister-Rust Control in the Inland Empire. Northwest Science, Vol. 4, No. 2, p. 48-50, June, 1930.

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ERRATA

Mr. J. E. Riley calls attention to a slight error in his Circular 69, which we repeated in the June issue in an article entitled "How to Tell European Black Currants." While it is stated under "American Black Currant" that "A magnifying glass may sometimes be necessary to see them on the under surface," Mr. Riley states that this should read upper surface for his experience has been that the resin dots are always easily seen on the under surface but often very difficult to distinguish on the upper.

Edit: It would be interesting to know whether any of the agents in the Eastern States are having difficulty in distinguishing between *Ribes americanum* and *R. nigrum* after studying the distinguishing characters of these two species which Mr. Riley gives. Should there be any difficulty, the Washington Office will be glad to examine the black-currant specimens and identify them. Leaves as well as stems, however, should be forwarded.

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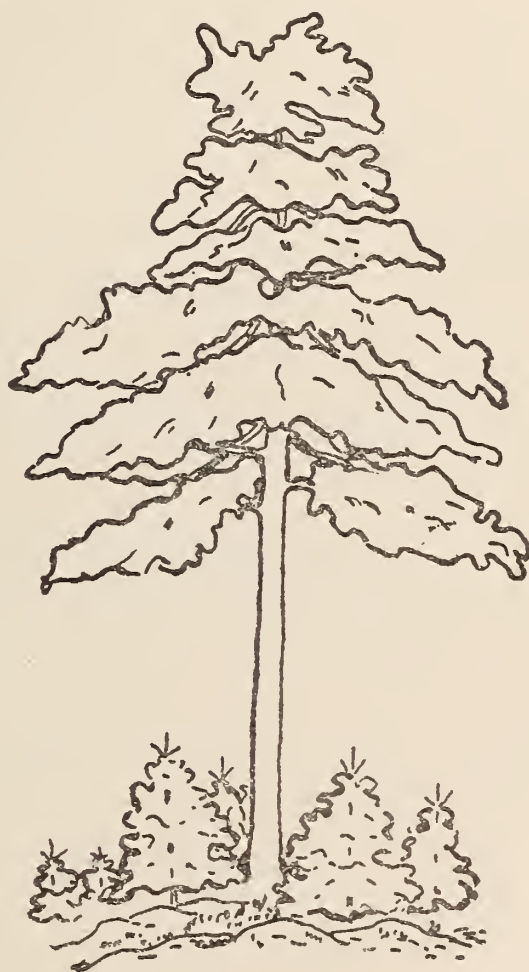








# THE BLISTER RUST NEWS



August, 1930.

Volume XIV

Number 8

U. S. DEPARTMENT of AGRICULTURE  
BUREAU of PLANT INDUSTRY  
OFFICE of BLISTER RUST CONTROL





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UNITED STATES DEPARTMENT OF AGRICULTURE  
BUREAU OF PLANT INDUSTRY  
WASHINGTON, D. C.

T H E B L I S T E R R U S T N E W S

Issued by the Office of Blister-Rust Control  
and Cooperating States.

Vol. 14, No. 8

August, 1930

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WHITE-PINE BLISTER RUST CONTROL PROGRESSING IN ACADIA NATIONAL PARK,  
MT. DESERT ISLAND, MAINE.

The National Park Service in cooperation with the Bureau of Plant Industry of the United States Department of Agriculture is conducting a vigorous campaign to protect the valuable white pines in Acadia National Park from the ravages of the white-pine blister rust, a fungous disease which is seriously threatening the white pines on Mount Desert Island. Control work was started in the Park May 19th with three crews of six men each, in charge of Mr. K. K. Stimson, of the Bureau of Plant Industry, with Mr. H. G. Harris, a junior forester from Syracuse University, and Mr. G. H. Curtis of North Bridgton, Maine, as assistants.

The method of controlling this disease is by systematically eradicating currant and gooseberry bushes (host plants of the fungus) within infecting range of the white pines. Up to July 19th, a total of 195,887 skunk currants and gooseberries have been uprooted from approximately 1,600 acres in Acadia National Park in protecting valuable scenic pine stands in the vicinity of The Bowl, The Beehive, Bubbles Mountains, Mitchell Hill, and The Amphitheatre.

K. K. Stinson

- - - -

We are having wonderful cooperation down here (southeastern Massachusetts) on our black-currant work and the cooperators are taking hold in fine style.

E. M. Brockway Mass.



NURSERY SANITATION AT THE BROWN COMPAY NURSERY, OQUOSSOC, ME.

The largest private eradication project in Maine this year was done by the Cupsuptic Nursery at Oquossoc, Maine. This nursery is owned by the Brown Company, one of the largest paper and timberland owners in New England. The nursery is mainly a conifer producer, with a capacity of around twelve million trees, located on Cupsuptic Lake, one of the Rangeley chain of lakes. The white pines are confined to the central part of the nursery and several hundred feet from the wild woodlands. Although the company had done some Ribes eradication in previous years, they decided to eradicate the Ribes for a distance of fifteen hundred feet this spring. This they did, using a five-man crew for about six weeks, the State of Maine furnishing a trained foreman. Owing to the exceptionally difficult working conditions, such as windfalls, piles of brush, dense cover of raspberry and other bushes, it was necessary to work very slowly and make the strips very narrow. The job was finished the last day of June. As the Rangeley Lakes are 1517 feet above sea level and surrounded by mountains the work was greatly handicapped by rainy weather; hardly a day passing without heavy showers, which held up the work.

Skunk currants and prickly-stemmed currants were nearly one hundred per cent of the Ribes pulled, these occurring in great patches. Not over half a dozen gooseberry and red currants were found. All told, 101,114 Ribes were pulled from 126 acres, or over 800 per acre. The total cost amounted to approximately \$400.00 while the per acre cost was \$3.17.

The Company plans to rework the area in the spring of 1931.

W. O. Frost, Me.

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NURSERY SANITATION IN NEW YORK STATE

During the season of 1929 the State nurseries at Horseheads and Painted Post, N. Y., were gone over, as well as a protective zone around them of 1,500 feet for all Ribes and one mile for English Blacks, Ribes nigrum. Over 40,000 bushes were removed from this area. The two nurseries and the environs cover approximately 5,600 acres.

We have just completed a reeradication job there and this time we pulled less than 4,000. A very large percentage of the bushes that we found this year came from seed during 1929 after eradication, in my opinion. Of course a few were very small at the time of the first job and were missed. Nearly all of the 4,000 Ribes pulled this year were American Blacks, R. americanum.

N. H. Harpp, N. Y.

## JULY IN MASSACHUSETTS

### Special Field Conditions:

The continued dry weather during July doubtless explains in part the relatively light infection prevalent on Ribes. Such a condition seems to prevail on a State-wide basis, the only exception being in the area in western Hampshire County where control work is in progress on the lands surrounding the proposed reservoir of the Metropolitan Water system. The wild Ribes in that section are generally heavily infected. In general, wild Ribes are not being found in any great abundance in the 1930 towns, with the exception of the towns in the section referred to above in western Hampshire County.

### Regular Control Work:

During the month of July more than 200 individual property owners and three State Departments cooperated in the removal of Ribes on 44,000 acres of land. On this area more than 225,000 wild Ribes were found and uprooted. There was less activity in the removal of cultivated Ribes, the records showing that only 500 such bushes were destroyed during the month. The initial eradication program is nearing completion in the Berkshire, Hampden, Hampshire, and Middlesex districts.

### Black-Currant Eradication Projects:

Special black-currant location and eradication work was in progress in 26 towns during July. Black currants were found on 354 properties in these towns and the patches located contained 2,421 plants or almost exactly 7 to each owner. The initial black-currant location work in the southeastern district was practically completed during the month and during the last week in the month, reinspections were started. To July 31, Agent Brockway had located during the season, 7,903 black currants on 1,120 properties. Of the actual removals to date, approximately two-thirds of the owners have removed their own bushes and the properties have been rechecked to see that the work was properly done. Thus far, no serious opposition to the work has been encountered although the occasional "bad actor" has been met with. Much of the actual removal work is still ahead of us, however.

August 1, 1930.

C. C. Perry, Mass.

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### NORTON KNOWS HIS BERRIES

The other day while buying some fruit at Norton's grocery store at Great Barrington, Mass., a clerk opened up a fresh crate of red currants. I made a remark to the effect that the berries were especially nice and asked where they came from. The reply was as follows: "Oh those came from over near Albany, N. Y. You know there is no pine over there to get the blister rust." I did not know the clerk, but apparently "Bill" Endersbee had made an impression on him.

August 1, 1930.

G. Stanley Doore, Mass.



PROGRESS OF ERADICATION WORK IN CONNECTICUT

By the end of the 1930 field season initial eradication of wild Ribes will have been practically completed within infecting distance of pine in all of the towns comprising the natural white-pine area of the State. Much of this area is in need of reeradication at the present time.

During the last eleven years (1919-1929), approximately 219,000 acres of pine land have been freed from wild Ribes and 22,700 acres of this has been reeradicated. More than 1,700,000 wild currant and gooseberry bushes have been destroyed and approximately 17,300 cultivated curants and gooseberries have been removed under State supervision.

In the southern two-thirds of Connecticut there are very few wild Ribes and very little native white pine. Considerable planting of white pine has been made in this region and here the chief blister-rust control problem lies in the elimination of cultivated Ribes within infecting distance of the pine plantations.

Infection on white pine is very prevalent in northwestern Connecticut, rather common in the northeastern section and occasional specimens are to be found throughout the central and southern part. Infection on Ribes is found throughout the State.

Future control work will include:

1. Reeradication of Ribes in areas previously worked when inspection demonstrates the need of another eradication.
2. Elimination of the European black currant throughout the natural white-pine areas and eventually throughout the State. A resurvey of all cultivated Ribes will be made at the same time.
3. Establishment around white-pine-growing nurseries of control areas within which the growing of currants and gooseberries will be prohibited.

J. E. Riley, Conn.

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MAINE COAST RESIDENT THINKS SALT AIR BAD FOR BLISTER RUST.

This spring a resident of a York County sea-coast town ordered Ribes plants from a New York nursery but was advised by the nursery that a quarantine prohibited their entry in his town and county. The resident wrote back to the nursery company as follows: "As for the 'Pine Blister' they don't know anything about it. I am living a half mile from the beach and salt air, and salt mists do not agree with (Pine Blister) and I have no fear of them."

Note: On the contrary, as we find our heaviest pine infection along the seacoast where the pines are subject to days upon days of salty mists, we cannot agree with the writer. Anyway we did not give the nursery a permit to ship the Ribes to him.

W. O. Frost, Me.

FOREST WORK CAMP TO BE OPENED ON PEOPLE'S STATE FOREST IN CONNECTICUT.

New Haven, July 30. It was announced today by R. M. Ross, Forester for the Connecticut Forest and Park Association, that a Forest Work Camp will be opened on the People's State Forest in the town of Barkhamsted, Litchfield County, on Monday, August 4th. The Camp will be conducted under a cooperative agreement between the Association and State Forester, Austin F. Hawes. As far as can be determined, this is the first camp of its kind, and it is being tried out more as an experiment that with a view to reducing the present unemployment situation.

The Camp is limited to men of 18 years of age and older. They will be employed in cutting out fire lines, cleaning out wood roads, weeding forest plantations; Blister Rust Control; and nursery work on the State Forest. As the men are inexperienced in the type of work, they will receive but a small wage (\$1.00 per day for days worked) in addition to their board. The Camp is planned with the idea of giving men healthful out-of-doors work which will be somewhat of a vacation for them and at the same time accomplishing improvement work on the forest. The Association is paying one-half of the cost of the camp from funds given by its members and other public spirited people, and the State Forestry Department is paying the balance. The number of weeks the Camp will continue depends largely upon the amount of gifts received.

Mr. Ross stated that there appears to be a real need for such work camps, as many more men have applied than can be accommodated. The Camp appeals especially to men who have worked indoors all year and to those who are temporarily unemployed. Seven hours of work for five days a week are expected from each man. There will be no work on Saturdays or Sundays, which will give an opportunity for recreation.

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PROGRESS OF CONTROL MEASURES IN NEW HAMPSHIRE

Cooperative control of the white-pine blister rust opened up this year on April 25th. In spite of a relatively early spring - snow having disappeared late in February - Ribes were extremely backward in leafing out. Up until May 16th good weather for eradication prevailed, but following that date and up to within a week of the writing of this article, rain was the rule rather than the exception.

To date, July 15, control measures for this season have been completed in 41 towns. At the present time work is under way in 30 additional towns. The total number of foremen, scouts and crew members on the weekly payroll are 188. This is the largest field force engaged in applying control measures since 1924.

Returns from towns coming under the compulsory eradication act of 1929 have been on the whole very satisfactory. A limited number registered a protest or requested a hearing, but in most instances the difficulties were ironed out.

July 15, 1930.

L. E. Newman, N. H.



MASSACHUSETTS USES A PRINTED CARD IN BLACK-CURRENT ERADICATION WORK

---

Blister Rust Control Agent:

In view of the information which you have given me regarding the action of the European black currant in transmitting the blister rust to white pines, I wish to cooperate with the United States Department of Agriculture and the Massachusetts Department of Agriculture in the effort which is being made to prevent the further spread of the white pine blister rust.

In response to your request, I have pulled up and destroyed the \_\_\_\_\_ European black currant bushes on my property at

---

Street address

---

City or town

A total of \_\_\_\_\_ men were used for a total of \_\_\_\_\_ hours.

---

Date

---

Name of owner

---

Edit. The Washington Office is in position to have cards run off for other states in large or small quantities.

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LANTERN SLIDE AVAILABLE.

Shows Stages in Life History of Cronartium Ribicola

Slide No. 4000 is ready for distribution. This is a composite picture showing in four quarters the following stages in the life of the blister rust fungus:

Mycelium entering cells of white pine  
Pycniospores and aeciospores on white pine  
Uredinia on Ribes leaf  
Telial Column and Sporidia on Ribes leaf.

A dozen slides of these are available, more will be made when needed.

R. G. Pierce. Dist. of Col.

RHODE ISLAND'S EUROPEAN BLACK CURRANT ERADICATION PROJECT

WELL UNDER WAY

ERADICATION OF THESE DANGEROUS HOST PLANTS OF THE  
WHITE-PINE BLISTER RUST COMPLETED  
IN TWENTY THREE TOWNSHIPS OF THE STATE.

The white-pine blister rust control crew of the State Department of Agriculture has from April through July scouted about 16,000 properties in carrying out the State's efforts to destroy all European black currants growing in Rhode Island. During this time over 2,600 European black currant bushes have been destroyed on 200 properties. The necessity for this work to check the spread of white pine blister rust by destroying the most susceptible host plant of the disease, is well understood by all property owners who are interested in forest protection. The rust, which appears on the under part of the currant leaves during the late summer and early fall, is already becoming conspicuous, and will, within a very few weeks, be prevalent on European black currant bushes which remain in the State.

In the two years during which the black currant project has been carried on by the State, scouting for and eradication of black currant bushes has been completed in twenty-three townships. Work has been started also in several other townships. About 32,000 properties have been inspected and approximately 8,500 bushes destroyed. This project is under the direction of Mr. A. W. Hurford, State Blister Rust Control Agent, whose services and advice are available to persons interested in the control of this dangerous fungous disease.

European black currants have been declared a public nuisance, under authority of the law, and their possession made illegal. Owners of these bushes are requested to pull up all roots when destroying the plants, so that the bushes will not sprout up again. Many people attempt to check the growth of the plants by cutting off the tops, but European black currants sprout so rapidly that only complete eradication of the plants, including the roots, is effective.

Scouting is now being carried on in Bristol County. After this county is completed, the men will start work on the Island of Rhode Island. In addition to checking the long distance spread of the disease, eradication work on the east side of Narragansett Bay will protect valuable ornamental pine growing in that vicinity, as well as protecting pines growing in the many large local nurseries.

Our neighboring States, Massachusetts and Connecticut, are among the pine growing States which have declared the black currant a public nuisance. Eradication of the European black currant in all these States will check the long distance spread of blister rust, since other species of currants and



gooseberries only spread the rust to white pine within nine hundred foot distances.

Effective control of the white-pine blister rust is being accomplished, and with the ease in which control can be established, our white pines need not die as our chestnut trees did because of the chestnut blight.

Rhode Island Press Release.

Edit: Agents in other States may be interested in the form of publicity which the State of Rhode Island gives to its black currant eradication work. Mr. Hurford states that this is the second release on this work sent out this season to the 40 odd newspapers and certain educational agencies in the State.

- - - -

#### GROWING TIMBER FOR A PROFIT

Recently I learned from an Otsego County farmer that he has figures to prove that there has been a substantial profit derived from the growing of hardwood on a certain area in that county.

The woodlot mentioned is near a town called Maryland and is known as the "McKown Ridge" and covers approximately 100 acres. In 1870 there was \$4,000 worth of wood taken from it. About 45 years later an additional \$4,000 worth was cut from the same area and today it has a fine start towards another crop. The local market was and is, no doubt, exceptionally good as there is an acid factory within one mile.

Because of the propaganda that has been passed around about taxes eating up the profit on some of these areas, I thought this might be of interest. If this can be done with hardwood, why can't the local market for white pine be stimulated to advantage? We have, as we all know, hundreds of small sawmills standing idle which should be made to pay. In addition to the old water power mill, we are finding from time to time electric and steam mills which are in fine condition and it appears should be producing a dollar but are at a standstill.

Is the northwestern lumber, which is being shipped in here, the cause of all or just a part of this?

Sometime ago up in Warren County I met a very prominent and successful lumber dealer and sawmill operator whose judgement on the subject is recognized to be exceptionally good. He told me that naturally he didn't know what the future market for white pine was going to be but he thought enough of it so that he was buying all the young growth, as well as the older crop, that he could at a reasonable figure, for the future of the company of which he is now president.

So it appears that the more white pine we can now get protected from blister rust the better, at least for the next generation.

N. H. Harpp, N. Y.

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PROGRESS IN NEW YORK

We have not a great deal to report on as far as blister-rust work is concerned to date.

We have a large force of men employed but records of areas that have been protected are coming in very slowly. A rough survey of figures indicates that there is scarcely more than half the acres protected that were covered a year ago on this date. In some sections considerable more acreage has been covered than was reported by the same agent at this time last year. On the other hand quite a few areas show the acreage to be lacking by a considerable margin.

We have experienced our usual amount of stormy weather but that is not the chief factor for the reduction in acres covered. Cooperation seems to be hard to get, particularly in the sections where the most abundant supply of white pine is found.

We hope that other States have more encouraging reports to make as it seems we will have to lean on them to keep up the Federal records of past years.

H. L. McIntyre, N. Y.

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ESTATE OWNER SEES ADVANTAGE OF OUR SCOUTING SYSTEM.

While interviewing a large estate owner at Bar Harbor, on whose place we eradicated some Ribes in 1928, he claimed that we were not doing good work in Ribes eradication, that he had been informed by a well known gardener that there were still acres of currant and gooseberry bushes at Hadley Point. As we did not want this kind of advertising I took the matter up with our Mr. Lambert, who has been in charge of the work at Bar Harbor during the past three years. I very soon discovered that Lambert had "thrown out" this area because there were but two or three white pines on several hundred acres of brush land, although Ribes were very numerous. To remove these Ribes would cost five to six hundred dollars.

Later I personally ran over the tract and then reported to the estate owner. He saw the point.

Moral: Don't be a sucker and swallow hook, sinker and leader of the line some busybody is only too willing to cast into the pool of public opinion.

W. O. Frost, Me.



LOCAL ARTIST AT WOODSTOCK, NEW YORK, DESIGNS  
BLISTER-RUST CONTROL POSTER.

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While visiting an ice cream parlor one evening in the village of Woodstock, N. Y., with one of my foremen, my attention was called to an original blister-rust poster on the wall. Upon inquiry I found it was designed by a well known artist who lives there. The poster was about 15" by 18" of white cardboard with black letters. On the left side was a twig about a foot in length showing blister rust. The wording read: "This is the fatal white pine Blister Rust. Help control it by pulling all currant and gooseberry bushes within 900 feet of white pine". The wording was simple but understandable by everyone who read it. The proportions were good and the effect was very pleasing.

Woodstock is noted for its artist colony and it is gratifying to know that one of its leaders is vitally interested in our blister-rust problem. The immediate section around there has plenty of white pine with the disease firmly established. Two State foremen will be working in the town very shortly and it is expected that cooperation will not be hard to get.

H. G. Strait, N. Y.

NOTE ON THE INFECTION IN SOMERSET COUNTY, PENNSYLVANIA.

"Saw the pine infection on the summit of Laurel Ridge on the extreme northern border of Sommerset County about 30 miles in an air-line from the Maryland and Pennsylvania line. In case you have not received complete information on this from Coover, will say that it is in a 16-year old white pine plantation--on the top of Laurel Ridge, Legonier State Forest, set in an old burn at an elevation of 2700'. The infection on white pine is not as far advanced as at Mt. Alto. There were in fact only 5 or 6 trees on which I was sure that I could detect cankers. About 100 acres were originally planted to white pine in this block, but sprout growth choked out and killed large areas of the pine, so that the distribuion of the pine is very spotty. Did not have time to scout the whole hundred acres, but did inspect planted pine within quarter mile of the infection area without turning up any additional cankers, though they are undoubtedly there.

The Ribes rotundifolium adjacent to pine infection is plastered with the typical orange-colored spores on under surface. Examined hundreds of bushes of R. rotundifolium more than one hundred feet from pine, but none of these bushes showed any infection. We learned from District Forester Bearer that there were no natural or planted pine anywhere to the south of this stand on Laurel Ridge and we scouted south toward the Maryland line to confirm this statement and finally we located just out of Somerset--7 miles away--15 acres of self sown pine in open field up to 20 years of age very open growth. Found Ribes rotundifolium and cynosbati adjacent, but no infection on either Ribes or pine. This stand will bear watching. Belongs to Joseph Emmett, Somerset. Pa.

J. A. Cope

Edit: This is the most southwestern infection and is nearer the pine areas of Maryland, Virginia and West Virginia than any other.

BLISTER-RUST CONTROL IN PENNSYLVANIA

Considerable progress in blister-rust control has been made lately in Pennsylvania, there being eradication crews working in Bald Eagle, Sproul, and Tiadaghton State Forests Districts. Blister rust has been found in four or five new locations. The crews visited this last week are doing good work, and getting out many wild gooseberry bushes. We have been able to scout most of the plantations before putting a crew at work in them; found five plantations having no Ribes, which will need no crew work, also portions of other plantations free of Ribes. Some of the plantations that were scouted last year are now being worked by crews.

L. W. Hodgkins.

\* \* \*

During July, eradication work has been started in three Forest Districts and also continued in five of the six districts where the work has been in progress for some time.

The eradication work has been hindered to some extent by the forest fire situation. In several instances, the eradication crews have been called upon to fight fires.

Scouting has been done in the Bald Eagle, Tiadaghton, Sproul, Moshannon, and Penn Forest Districts. In the Penn District, three separate centers of blister-rust infection on pines were found. They are located in Treaster Valley plantation, the Junction plantation, and in Greens Valley. They are of recent origin, the oldest being a 1923 infection in the Junction plantation.

We are deeply indebted to Mr. Hodgkins for the assistance rendered in this work, as most of the eradication work was started under his supervision and he directed practically all of the scouting.

On July 21st and 22d, a Forest Ranger's Conference was held at Milroy, in the Penn Forest District, by the Pennsylvania Department of Forests and Waters. As a part of the program Mr. Hodgkins, assisted by Mr. May, had a blister-rust demonstration. Mr. Hodgkins gave a brief talk on the history, hosts, spread, and control of blister rust. After this introduction, the men were shown through the pine infection area in Greens Valley where the rust is just showing up. The area was well tagged with the regular blister-rust tags and large posters. The men were much interested, some of them having never seen the rust. Mr. G. H. Wirt and Mr. R. L. Emerick from the Harrisburg office and about 35 rangers from various sections of the State were present.

R. P. Fatzinger, Pa.



NEWS FROM OUR SOUTHERN CORRESPONDENT, MR. J. A. COPE

Mr. Cope, who has been scouting through the southern Appalachians since July 1, writes to Pierce concerning what he has found on his tour.

Skunk Currants on Spruce Mountain, W. Va.

"On Spruce Mountain, the highest mountain in West Virginia, (a part of the Allegheny backbone) at an elevation of 4800 feet, I found quantities of skunk currants, R. glandulosum carpeting the limestone rocks, and also many bushes of smooth (roundleaf) gooseberry, R. rotundifolium. Also there was one white pine at 4500 feet in among yellow birch, spruce and other members of the Adirondack Forest zone. This is the highest so far for my trip."

Ribes Not Plentiful in Portions of the Shenandoah National Forest.

"You will be interested to know that I was only able to discover two - three-foot Ribes bushes in one of the areas you scouted on the North River drainage in the Shenandoah National Forest in Virginia. I only scouted for about two minutes in this drainage and just happened to run onto these two bushes. I didn't find any in the Calf Pasture drainage though I tried all the likeliest spots. I don't know why they are not there."

Birds Eating White-Pine Weevil Larvae.

"I think you will be interested in the two weeviled specimens of white pine twigs as I know I was. In all my travels through weevil-infested white pine in the North I never found a weeviled top where the larvae had been dug out by birds. But here you are. On the Shenandoah National Forest in that area of natural pine which has been reenforced by interplanting, there were this year some score of 6 foot self-sown trees that had been weeviled. In practically every case the damaged leaders were in this condition, showing that in this stand at least there will be that many less weevils next year. One curious thing we noted and as you can observe, the birds do not attack the weeviled stems until the larvae of the weevils have reached the pupal stage."

Edit: Mr. McAtee of the Biological Survey, to whom the weeviled specimens were shown, states that the birds which ate the larvae were probably downy woodpeckers.

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WHITE PINES AT BILTMORE, NORTH CAROLINA

The stands of northern white pine are the most extensive and the most important of the planted stands on the Biltmore Estate. Some of these stands are exclusively of white pine; in others the white pine is mixed with one or more species of hardwoods or with other conifers. The best are the pure stands of the Douglas plantings, now nearly 40 years old. For some of these, when 25 to 30 years old, Rhoades and Tillotson estimated yields of 10,000 to 12,000 board feet to the acre. Some of the younger stands of white pine and of white and shortleaf mixed are also making very satisfactory progress.

The growth of the planted stands at Biltmore compares very favorably with that of second growth white pine in New Hampshire.\*

Biltmore Plantations				New Hampshire Second Growth Pine	
Good Sites				Site Quality 1	
Age of Plantation.	Old Orchard Plantation Vol. per Acre in cu. ft.	Age of Plantation.	Apiary Plantation Vol. per Acre in cu. ft.	Age of Stands	Volume per acre in cubic feet
18	3,110	20	4,680	10	800
24	3,600	26	5,060	15	1,400
30	3,730	32	5,980	20	2,100
				25	3,000
				30	4,000
				35	5,200
				40	6,500

\* Frothingham, "E. H. White Pine Under Forest Measurement", U. S. Dept. Agr. Bul. 13, 1914.

Where white pine is growing with pitch, shortleaf, or Scotch pine, all the species are usually of very nearly the same size. Where there is an appreciable difference the yellow pines are generally but not always the larger.

In the Lone Chimney plantation white and shortleaf pines 15 years old both averaged 30 feet in height, which is more than the average for pure white pine stands. The tallest white pines were a little taller than the tallest shortleaf pines, but, on the other hand, the average diameter at breastheight of the white pines was 3 inches, as compared with 4 inches for the shortleaf. Scotch pine, in the one stand in which it is found, is a little larger than white pine growing in mixture with it.

Other species planted with white pine or with white and shortleaf pines have sometimes been entirely shaded out or reduced to a low understory. In such cases the stands differ little if at all from what they would be if



The trees of the understory were absent. Sugar maple has been thus suppressed by white and shortleaf pines in the Farmcote plantation, and the white pines of the Douglas stands have greatly overtopped eastern hemlock, Carolina hemlock, and Douglas fir. In the Persimmon Heights plantation western yellow pine is entirely gone, leaving white pine in pure stands.

White pine and sugar maple in mixture have given varied results. In some places the pine is well in the lead; in others the growth of the two species is very much the same. Again, white pine planted after sugar maple has sometimes been very much suppressed by the maple.

(Extract from "Forest Plantations at Biltmore, N. C.", U. S. Dept. of Agr. (Misc. Pub. No. 61. January 1930.)

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WHITE PINE RANGE EXTENDED TO INCLUDE SOUTH  
CAROLINA AND ALABAMA.

Ye Editor in an inquisitive mood one day this spring took it into his head that white pine, P. strobus, might well be found in South Carolina, because the distribution map in Sudworth's Forest Atlas of 1913 showed it just across the line in North Carolina.

Director H. W. Barre of the South Carolina Experiment Station at Clemson College, S. Car., was then called on for expert opinion. He wrote as follows:

"In reply will say that white pine comes into South Carolina a very short distance along the Blue Ridge in Oconee, Pickens, Greenville, and Spartanburg Counties next to the North Carolina line. The natural distribution does not extend beyond the mountains. A few specimens here on the campus 30 miles from the foothills of the mountains seem to thrive very well but this is beyond the natural range."

Since receiving the above letter the old monograph on the White Pine by Spaulding and Fernow, (Bulletin 22 of the U. S. Dept. of Agriculture, Division of Forestry, 1899,) was looked into with the result that the botanical range of white pine was there shown to include not only a strip in western South Carolina, but also northern Georgia (shown also in Atlas), and a corner in northeastern Alabama (not shown in Sudworth's Atlas).

R. G. Pierce.

BLISTER-RUST CONTROL IN MICHIGAN

In the Upper Peninsula, Agent Ferrari is in charge of Gogebic County eradication work. He is cooperating with the County Agent and plans to protect the school forest established there. Ferrari has also carried on some educational work in the Finnish papers. One of them has a wide circulation throughout the Finnish population of the Upper Peninsula.

Kroeber has White and Fox busy on cooperative control work. Kroeber's crews in Dickinson and Marquette Counties report that a large percent of the Ribes bushes are infected. This is not true with the crew in Gogebic County,

In the Lower Peninsula, black-currant eradication is progressing rapidly in Grand Traverse County; showing 1/2 of Traverse City completed and between 3 and 4 townships outside of the city completed. Agent Thompson who has been in training, will gradually take over his duties as Agent in Lower Michigan.

Haun, Grimes and Burgtorf are in charge of eradication crews respectively in Alpena State Forest, Hardwoods State Forest and in the Hartwick Pines State Park. Morley has just completed a preliminary survey on the Houghton Lake State Forest and is now (July 23) working on the Ogemaw State Forest.

In the Hardwoods State Forest where white pine has been planted on a number of 40's since 1927, we have had a Ribes crew at work. It is extremely hilly for southern Michigan, and the surface is very uneven, hence difficult for rapid control work. The Ribes are cynosbati, americanum and glandulosum, the first predominating on higher ground. Cynosbati varies from a few bushes to 1,800 per acre. In contrast to this, look at the condition on the Higgins Lake State Forest. We scouted 12 forties of white pine there last year and found no Ribes except in a small swampy area approximately 30 acres in extent.

D. J. Stouffer, Mich.

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KROEBER REPORTS FROM UPPER MICHIGAN

Have been busy this summer supervising crew work engaged in eradicating wild and cultivated Ribes, and carrying on educational activities. There are 15 men in the Upper Peninsula, 4 in Dickinson County eradicating black currants and one carrying on cooperative control, 4 in Marquette County and 1 carrying on cooperative control, 4 in Gogebic County on black currant work and 1 man carrying on nursery sanitation at the Dunbar Forest Experiment Station near Sault Ste. Marie in Chippewa County.

The infection areas at Ralph which we discovered is a wonderful show plot to take skeptical or interested pine owners to. It never fails to create the desired impression.

August 7, 1930.



LARGE INFECTION AREA FOUND IN BURNETT COUNTY WISCONSIN

Mr. E. L. Chambers, State Entomologist and collaborator of this Office, writes under date of July 14:

"You will be interested in knowing that Mr. Cleasby has just completed the work he was doing at the Indian Reservation and that Mr. Jacobson has been doing considerable eradication work at the State Park in St. Croix Falls and has also been making a survey for us. In this survey he has discovered one of the largest infected areas ever found in the State. It is located east of Grantsburg near Mudhen Lake (Burnett County), along State Highway 70, in Sections 17 and 20 of the Town of Daniels. He says he believes the infection covers largely these two sections and that there is a heavy casualty already showing up among the young pine.

"Mr. Jacobson also reports finding another infection at Elk Mound which was heretofore not reported.

"Mr. Ninman is reporting that he has never seen a heavier infection on Ribes than is apparent this year in the area in which he is working."

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STATE LEADER KOUBA OF WISCONSIN VISITS INFECTED AREAS IN NEW ENGLAND

Mr. Kouba writes: "The five weeks training in white-pine blister rust control in New England, under Mr. Filler's supervision, has been helpful to me. It was an opportunity to see the damage from this disease in the States visited, their system of cooperation and methods of control. It convinced me that blister rust does considerable damage in New England, and may do so in Wisconsin, if not properly controlled."

Kouba, upon his return to Wisconsin, took a trip with Mr. Ninman through the Northern part of the State, scouting for the blister rust. He states that the rust is quite heavy this year.

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MICHIGAN AGENTS BELIEVE IN PUBLICITY.

In the Record-Eagle of Traverse City, Michigan, for June 24 and 25, 1930, there are one-half column articles concerning the white-pine blister rust and its control. The items stress particularly the eradication of the cultivated black currant. Such public notice of our work is very desirable, particularly in new territory.

NURSERY SANITATION AT CLOQUET STATION, MINNESOTA.

Over 47,000 Ribes Bushes Pulled on 18 Acres.

The Cloquet Forest Experiment Station from the standpoint of blister-rust control presents some problems characteristic of Northern Minnesota. The upland in this forest originally supported a growth of white and Norway pine; the swamp - a growth largely of spruce and cedar. Most of the forest was cut in 1910 before the land was acquired by the University of Minnesota. Practically the entire area in the forest (2960 acres) now supports good second growth stands. Jack pine is the predominating species, with Norway pine, aspen and birch, and white pine occupying smaller proportions of the area.

The upland is Ribes-free. Some of the swamps contain no Ribes, some a great many. Cut over swamps containing a thin layer of sphagnum moss contain the greater abundance of Ribes. The following species in order of their abundance can be found.

R. prostratum

R. triste

R. hudsonianum

R. americanum

G. oxycanthoides, (referring to R. hirtellum)

Blister rust has never been found on the Forest. Considering the fact that it is known to be present within 25 miles it was deemed advisable to establish a nursery sanitation zone around the forest nursery.

One swamp falls within the 1500 foot zone. During the latter half of June forestry school students removed 46,900 bushes from approximately 18 acres. This makes a Ribes density of approximately 2,600 per acre.

The work was done by the students as part of their class work on the forest. We believe it to be the first time that practical instruction in Ribes eradication methods has been given to forestry school students. If the student time be credited at 35 cents an hour, the cost of eradication of the 18 acres was \$91.95 or \$5.10 per acre. This cost is very reasonable in view of the large number of Ribes per acre found in the swamp.

July 14th and 15th Blister rust control agents Stewart and Dahl, assisted by two forest employees, re-eradicated about 15 acres in this swamp. They removed 1763 bushes, or approximately 110 bushes per acre at a cost \$1.13 per acre. This shows a bush eradication efficiency of over 96% on the original working, which is good work. These 15 acres of swamp are the only acres containing Ribes within the 1500 foot nursery sanitation zone.

L. B. Ritter, Minn.



BLISTER RUST IN STANCHFIELD TOWNSHIP, ISANTI COUNTY, MINN.

The southern end of the northern white pine range in Minnesota extends through Stanchfield Township, about fifty miles directly north of Minneapolis. This township contains approximately 500 acres of second growth white pine, about half of which is pure and the other half is mixed with hardwoods.

White-pine blister rust is causing considerable damage in this area at the present time. The disease was found here eleven years ago and its results are very conspicuous to the blister-rust worker. One can walk into any pine stand and find an abundance of blister rust "flags" on both old and young trees. One tree, about 15 years old, was found to have 21 cankers on it; while another tree, about 7 inches in diameter, had a large canker completely girdling the trunk and the tree was "bleeding" very freely. This is something which is very seldom seen in this State and indicates that the disease has become well established.

Five species of *Ribes* were found. These were: *R. lacustre*, prickly currant; *R. cynosbati*, pasture gooseberry; *R. glandulosum*, skunk currant; *R. triste*, swamp red currant; and *R. oxyacanthoides*\*, wedgeleaf gooseberry. The pasture gooseberry was the predominant species and by far the most heavily infected. One could identify this species several rods away by the light-yellowish appearance of the leaves, caused by the heavy coat of rust on the under side. Infection was seldom found on the other four species for the reasons that they are less susceptible and they grow in more protected places, as in brush and swamps.

On one 80-acre tract 3,409 pasture gooseberries, 823 skunk currants and 787 American black currants were found, making a total of 5,019 bushes or an average of 62 per acre. This average is possibly a little high for the entire Stanchfield area, but I believe 45 bushes per acre for the entire area would be a conservative figure.

This will be an interesting area to watch during the next five or six years to see the result of eradication in checking the disease.

Ernest Dahl, Minn.

\* This is usually referred to in the East as *R. hirtellum*.

TRAVEL AUTHORIZATIONS

Your letter of authorization outlines the expenses that are allowed and your attention is again called to the necessity for carefully following the instructions contained therein. The need for performing travel or incurring other expenses not included in your authorization should be taken up with this Office for advance approval.

H. P. Avery.

SOAKING IN

Editor: The Smoke Screen.

We had as a visitor to this Station an Iowa gentleman with his family, who commented on the system of sign posting along highways.

He stated, "I noticed particularly the Forest Service highway signs in the States of Wisconsin and Minnesota. It seems to me they should be of great educational value, from the fact that the first one you see you will just about forget, when you see another, which, while along the same general lines, will be somewhat different. These signs seem to be just the right distance apart, so that soon you begin looking for the next and to anticipate what its slogan may be. In course of time, this sort of posting certainly has its effect and "soaks thru", and is bound to impress the message on the minds of the traveling public."

This seems to be a portion of our educational work which is registering correctly, and I am glad to be in a position to call your attention to the fact.

Yours very truly,

Harold B. Stotts,  
Patrolman, Dist. 4.

Ahrens Hill Lookout,  
Brainerd, Minn.  
July 7, 1930.

(Extract from "The Smoke Screen", St. Paul, Minn., July, 1930.)

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PROGRESS OF BLISTER RUST CONTROL IN MINNESOTA.

Better than 800 acres have been protected from blister rust in Minnesota so far this year. Several hundred acres have been found to be Ribes-free, therefore, not needing protection.

The eradication of wild bushes in a 1,500 foot sanitation zone around the Cass Lake National Forest Nursery was completed June 20th. All cultivated Ribes in the 1,500 foot zone and all European black currants in Cass Lake have been located and will be removed by the Federal Forest Service men after the fruit has been picked. Protection of Cloquet Forest Experiment Station Nursery will be completed by the time this issue of the Smoke Screen goes to press.

Blister Rust Agents, Ritter and Dahl, and Patrolman Leyde, discovered a new pine infection area July 5th, the said pine being in 42 - 26, Town of South Harbor, Mille Lacs County.

(Extract from "The Smoke Screen", St. Paul, Minn., July, 1930.)



TWO NEW TREE DISEASES REPORTED IN THE EAST.

Information Concerning Them Desired.

Two new tree diseases have been brought to our attention in "Science" of August 8, 1930.

Black Walnut Canker

Black walnut canker was discovered in West Virginia in 1929 by Mr. T. W. Skuce. This disease has been observed upon trees varying in diameter from three to twenty inches. The cankers are located at any point on the older wood but are most conspicuous upon the trunk and larger branches where they form "cat-faces" or targets composed of very prominent concentric rings of callus tissue. The margins of the cankers are very rough, being composed of the last formed and largest roll of callus tissue, together with the attached bark. This gives the characteristic cankers a concentric flaring appearance with a diameter which is usually greater than the diameter of the trunk or limb at the point of canker formation. What appears to be young infections often show a burl-like growth before they open up to form the concentric rings so typical of the older cankers.

It has been noted also that whenever a tree is attacked several cankers are present and are well distributed on the trunk and larger limbs. Other trees near by may show no symptoms of disease. This is suggestive of an inherent difference in susceptibility among trees of similar ages in the same stand.

Dr. C. R. Orton of West Virginia University at Morgantown, who published the note, desires any information regarding the occurrence of the black walnut canker.

Dutch Elm Disease

Mr. Curtis May of the Ohio Agricultural Experiment Station in Worchester, has a note on the Dutch elm disease in "Science" of August 8. He states:

"Several cases of the Dutch elm disease have been found in Ohio. The field symptoms exhibited were similar to those of the Dutch elm disease. The leaves wilted on certain branches or over the entire tree. Later, they turned yellow and dropped. The affected limbs died. When cross sections were made the typical brown discoloration of the vascular tissue was found, appearing generally as a broken ring but sometimes forming a complete circle. When the bark was peeled back the stains appeared as short brown streaks in the spring wood. \*\*\*.

"The cases observed in Ohio have shown marked evidence of parasitism. The disease has been very destructive in Europe, and we should know as quickly as possible how wide-spread the disease is here. Specimens sent to the writer will be appreciated and will receive prompt attention."

A M O N G O U R S E L V E S

Mr. S. B. Detwiler left the Washington Office on August 6th for a trip to New York and the Western States.

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Mr. G. B. Posey left Washington on August 8th for an extended trip through the western white pine and sugar pine regions.

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Mrs. Nellie F. Acton was appointed Junior Clerk Stenographer in the Washington Office on July 21.

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Miss Doris Parmele returned to the Washington Office on August 4th after a three weeks vacation with relatives in Albion, N. Y.

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Mrs. Helen Wright returned to Washington on August 4th after a vacation in Iowa. Mrs. Wright stated that the overland trip to Iowa and back was carried out without an accident, and was enjoyed very much in spite of the extreme heat.

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Mr. Ed. Schmidt returned to the Office on August 5th after a three weeks automobile trip through the central and northeastern States and Canada.

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Mr. George L. Barrus telephoned the Washington Office on August 8. He was passing through Washington on his way to Asheville, N. Car. He wished to be remembered to the "Blister Rusters". Barrus is an old timer, having been with the blister-rust control work under the Office of Forest Pathology from 1916 to 1918.

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Mr. C. C. Strong, Associate Forester in the Western Office with headquarters at Spokane, has published an article on "Desirability of a Broader National Policy of Forest Planting" in the Journal of Forestry for April, 1930.

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Mr. John Griffiths, who is a Junior in the University of Cincinnati, taking engineering work, visited the Washington Office on August 4. John worked for the Office in the summers of 1927 and 1928, being one of Al Fivaz's "Ribes Hounds" at Warrensburg, New York. He sends his regards particularly to the Warrensburg bunch.



Dr. Dow Vawter Baxter, formerly with us in blister-rust control, writes to Mr. Detwiler of his European trip:

"I had a busy time with Dr. Wilson of Edinburgh visiting forest plantations. In Norway I attended the forestry congress. There were 317 delegates. 70 automobiles were used to take us through the forest of southern Norway. A special train took us north to Trondjhem. I had a wonderful time with Dr. Lagerberg and Dr. Jorstad, both well known pathologists. We were in the forests for several days. I am now in Lapland. Have seen Ribes up here".

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### "Golf Knews"

Jack Palmer, our "topping divotist, turned in a score of 84-13-71 to win first prize for low net in the semi-monthly Agriculture "Dub" tournament at Washington.

P U B L I C A T I O N S
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#### White Pine

Bates, C. G. "One-Year Storage of White Pine Seed" in Journal of Forestry, April, 1930, p. 571-572.

Haasis, F. W. "Forest Plantations at Biltmore", U. S. Dept. of Agri. Misc. Pub. 61 (1930), p. 30.

Steiner, G. "Neodiplogaster Pinicola, N. Sp., A Nema Associated with the White-Pine Weevil in Terminal Shoots of the White Pine". J. A. R. Separate.

Stickel, Paul W. "Artificial versus Natural Replacement on Blight Killed Chestnut Land" in Journal of Forestry, April, 1930, p. 572, 573. This note shows how white pines planted on cut-over chestnut lands on the Mount Toby Demonstration Forest at Sunderland, Massachusetts, in 1919, have in 10 years produced a basal area per acre practically equal to that of the natural hardwood replacement on similar lands not planted to pine. This has only been accomplished, however, by repeated weeding in the pine plot.

Taylor, Raymond L. "The Natural Control of Forest Insects. I The White Pine Weevil, Pissodes strobi Peck" in Journal of Forestry, April, 1930, p. 546-551.

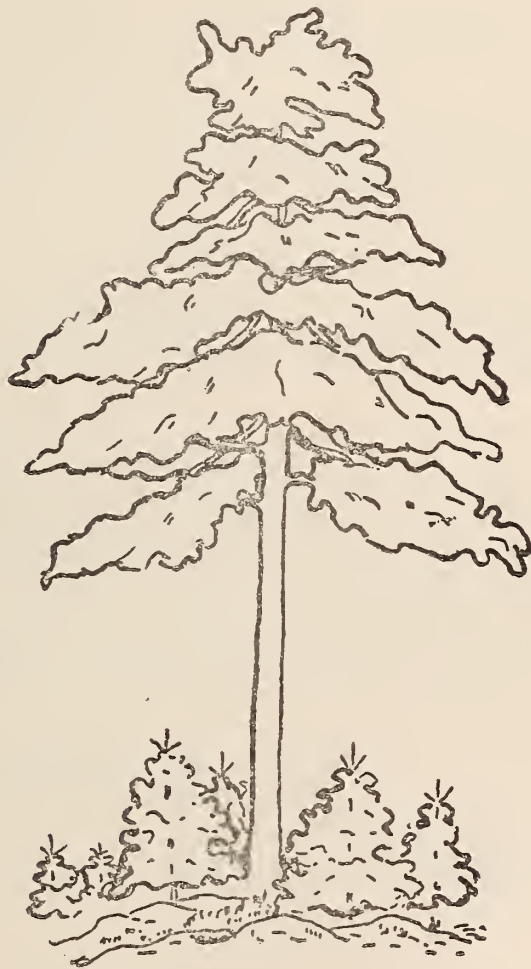
Zon, R. "Where White Pine Once Was King" in Nature Magazine, May, 1930. Vol. 15, no. 5, p. 310-313, 341-342.







# THE BLISTER RUST NEWS



September, 1930.

Volume XIV

Number 9

U.S. DEPARTMENT of AGRICULTURE  
BUREAU of PLANT INDUSTRY  
OFFICE of BLISTER RUST CONTROL





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UNITED STATES DEPARTMENT OF AGRICULTURE  
BUREAU OF PLANT INDUSTRY  
WASHINGTON, D. C.

T H E B L I S T E R R U S T N E W S

Issued by the Office of Blister-Rust Control  
and Cooperating States.

Vol. 14, No. 9

September, 1930

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PERSONNEL POLICY

In selecting employees in your bureau for promotion, critical consideration should be given to the merits of each case. The constantly increasing activities of the Department emphasize the responsibility of administrative officers to see that every dollar invested in salaries of employees brings its appropriate return to Agriculture. Although new appropriations usually call for increases in force it is often possible to absorb a substantial amount of new work through increased efficiency, resulting from betterment in organization or from improved personnel management.

It is the policy of the Department to recognize conspicuous accomplishment by appropriate increases in compensation, and the need is emphasized for rigid adherence to a promotion program which excludes from consideration all factors other than constructive and effective service. It will be recognized that all non-productive or non-progressive individuals should be omitted from your recommendations for approval.

Memorandum No. 602.

Arthur W. Hyde,

August 18, 1930.

Secretary.



CONTROL WORK ON ACADIA NATIONAL PARK COMPLETED  
FOR THIS SEASON.

The cooperative application of blister-rust control measures to the white pine area of Acadia National Park in Maine, has been completed for this season. In a recent letter, Mr. Filler makes the following statement concerning the season's work:

"This season about 2,800 acres of Park land have been cleared of 240,000 wild Ribes. The cost of this work will come within about one hundred dollars of our estimate. To date, about 4,000 acres of pine land on the Park have been initially eradicated of Ribes. There still remains 2,500 acres in need of initial protection. We can complete the remaining initial work on the Park next year. The checks that have been made on Ribes eradication show excellent control work. Stimson had two good foremen and kept the three crews interested and on the job at all times. His maps designate the areas worked each day and the number of Ribes pulled. These maps will prove of great value when reeradication work is performed. In fact, I am very much pleased in all respects with the results accomplished this season on the Acadia Park project."

August 30, 1930.

J. F. Martin

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BLISTER-RUST CONTROL IN NEW YORK

A sincere desire of the blister-rust organization to surpass this season any previous record in blister-rust work apparently will not materialize. Seasonable conditions have been exceptionally unfavorable for that type of work. General business depression has been another handicapping factor. Many white-pine owners who were actually interested in protecting their stands suggested financial limitations as their reason for their failure to do so. Regardless of what the record is, today very little can be done to help reach the goal we hoped to attain. The long dry season has had its effect upon the currants and gooseberries. The leaves have fallen in a good many sections, which spells the close of the season. In midsummer we looked forward to late fall work to help make up the deficit. That, however, now seems a forlorn hope.

Aug. 28, 1930.

H. L. McIntyre, N. Y.

## AUGUST IN MASSACHUSETTS

### General Field Conditions

The continued dry spell resulted in the premature defoliation of Ribes. However, except in the Worcester County district where patches of skunk currants were devoid of foliage as early as August 15, this premature defoliation was not sufficiently serious to cause a cessation of control work. Reports of infection point to a heavier infection than reported in July, especially in the Worcester County section.

### Regular Control Work

There was a slight reduction in the amount of cooperative work during August due to the fact that wild Ribes were so scarce in the towns worked, it was considered best policy to resort to scouting at State expense in many instances. However, 153 owners assisted in the examination of 36,393 acres of land, from which 234,764 wild Ribes were uprooted. Very nearly three-quarters of these bushes, however, were pulled on one project in the skunk currant areas in central Worcester County. Only 1,143 cultivated Ribes were destroyed during the month. Local property owners and cooperating State departments expended the equivalent of approximately \$1,300 in control work. Field work in the last town in District II (Middlesex County) for which initial Ribes eradication work was outlined in our Working Plan, was completed the last of the month.

### Black-Currant Eradication

Black currant location and eradication work was in progress in 26 townships during August. In these towns, 173 additional patches of blacks were found. These plantings involved 1,277 bushes. In the eradication end of the project, 5,101 bushes were destroyed, most of these having been located, of course, in previous months.

Sept. 1, 1930.

C. C. Perry, Mass.

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### WHITE-PINE BLISTER FOUND IN BELLONS FALLS TREES

Bellows Falls, Vt., July 13.- White pine blister rust has attacked the extensive forest of young pine trees in the watershed around the water supply of Minard's Pond, it was learned today.

The village trustees have applied to the State Forestry Department for assistance. They have been advised that an expert will be sent to oversee the men employed by the village in an effort to eradicate the pest. Work will start at once.

(News Clipping from Vermont.)



### WHAT'S HAPPENING TO THE KAY LOT

Perhaps many of the agents, who are familiar with the Kay lot in North Lisbon, N. H., will be interested in knowing the results of the blister-rust damage they saw there when we were in session in Littleton in 1922. We hear a great deal regarding the percentage of infection on many lots but have very few examples to relate in reference to the loss in dollars and cents resulting from this damage.

In this narrative you will find some excellent data to use in arguing control, from an economical standpoint, because it is possible to quote figures that are authentic.

The infection on the Kay lot was not localized but spread throughout the lot, although in some areas the percentage of infection ran higher than in others. On the rear end of the lot, where the trees were the smallest, we found upon inspection that in a few acres the infection was as high as 90%. In the center and front of the lot the percentage of infection varied between 40 and 50.

Five years ago practically all the trees on the rear end of the stand were dead. Four years ago Mr. Kay cut them all down, removed the brush, leaving openings, and today he is getting a nice reproduction of spruce and fir but none of pine. It is quite evident that he sustained a great loss through the mortality of the white pines.

This year, from the center and front part of the stand, Mr. Kay cut fifty thousand board feet of lumber, taking out the healthy pines and those showing limb infection. He sold these at the local mill, getting eighteen dollars per thousand. The cost of cutting and hauling amounted to eleven dollars, giving him a profit of seven dollars per thousand. Since the market for white pine in this locality has been poor for a few years, this is considered a good price.

Mr. Kay is of the opinion that he lost as many trees through blister-rust damage as he cut this year. This statement is borne out by the writer after viewing the lot, following the cutting. In fact, we are of the opinion that Mr. Kay is in for a greater loss unless he cuts the remainder of the stand within the next few years. There seem to be just as many trees left, showing trunk and limb infections, as he took out in the last cutting. Unless these are marketed soon they will go the way of the pines in the rear of the stand. With the price he was getting this spring it would have been wise for him to have made a clean cutting, or at least taken out all the infected trees that were still alive. Then he could have planted more if natural reproduction did not occur.

T. L. Kane, N. H.

BLISTER RUST CONTROL PROVES EFFECTIVE

One of the questions most frequently asked by persons interested in the control of the White Pine Blister Rust is whether the destruction of currants and gooseberry bushes is proving successful in checking the spread of this serious bark disease. As this is a most natural inquiry, we are very glad to be able to submit data indicating that the removal of these bushes is effective.

During the past year and a half, studies have been conducted in widely separated sections of the State (New Hampshire). In order to obtain a comparison of conditions in woodlands where control measures had been applied and also in those throughout which no work had been performed, it was necessary to lay out plots in both worked and unworked areas. Furthermore, since the size and density of growth of pines and other vegetation and the abundance of currant or gooseberry bushes is an influencing factor in the development and spread of the Rust, it was necessary to select areas as near alike in all of these features as was possible.

Since such a detailed study required considerable time and it was desired to obtain information along this line in as many towns as possible, plots of but one acre in area were laid out. A record was kept of both healthy and diseased pines; the year infection took place; number of infections per tree and the height of each. As nearly three years are required for infection to "show up" on a pine, no area that had been worked after 1925 was examined. These investigations were carried on in thirty-eight towns and the following was the result.

Of the total number of pines infected in the "unworked" plots - that is, where no currant or gooseberry bushes had been removed - 63.12 percent were infected before 1925 and 36.88 percent after that date.

This may be compared with the infection, which took place on the "worked" plots before eradication which was 92.74 percent, while after the date on which control measures were applied only 7.26 percent were infected. In many of the "worked" plots it was found that the spread of the Rust had been definitely stopped the year these bushes were destroyed. In such cases where some new infections were located this was due to new plants which had developed either from seed, broken off shoots or missed bushes. However, the increase was so slight as to be almost negligible.

The number of infections, or cankers, developing also gave some interesting and conclusive figures. In the unworked areas 5,911 infections originated before 1925 and 3,996 after that year.

In the control areas 3,205 infections took place prior to the year of eradication, while only 188 appeared after the land had been gone over for currants and gooseberries.



It has long been maintained that the rust is an especially serious menace to young and immature white pine growth, and this oft repeated statement was readily borne out by these studies after a summary of the heights of pines infected was made. In the areas not worked, 1,123 of the pines infected were from 1 to 5 feet in height; 716 from 6 to 10 ft; 271 from 11 to 15 ft; 371 from 16 to 20 ft., and 312 over 20 feet. Thus, out of a total of 2,793 trees infected, 2,110 or 75.54 percent were trees under 15 feet in height. These figures prove beyond all doubt that currant and goosebeery bushes "must be destroyed" if we are to attempt growing pine. It is obvious that before "saw-logs" we must have "seedlings", and while Blister Rust is no respecter of age, it nevertheless is quickly fatal to young growth.

L. E. Newman, N. H.

(Extract from "New Hampshire Forests", June, 1930.)

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#### BIOLOGIST STATIONED AT AMHERST

Mr. J. Paul Miller, Junior Biologist, Food Habits Research Division of the Biological Survey, Department of Agriculture, will be stationed at the Northeastern Forest Experiment Station, Amherst, Massachusetts, September 1st, to conduct investigations on the food habits of birds and animals. Among other things, he may undertake to determine the viability of Ribes seeds which have passed through the digestive tract of birds and rodents, and to what extent they are responsible for repopulating white pine areas with Ribes through the dissemination of viable seed. Also, he may try to determine the different kinds of animals which eat the infected bark of white pines. Information on both of these problems will be of value to blister-rust control work. Employees are requested to render such assistance to Mr. Miller in connection with his work in the Northeastern States as may be practicable.

August 29, 1930.

J. F. Martin.

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#### POCKETS OR NO POCKETS

Certainly there is one thing upon which the most of us will agree, i.e., that the new notebooks (B.R.C.1) are most acceptable at this time. They fill a need that has been keenly felt for some time. The lack of a pocket in the back of the book is of minor importance for the time being. A couple of good elastic bands will bind the BR 25 pads firmly to the back of the Field Notebook.

G. Stanley Doore, Mass.

REINFECTION AT THE PEMBROKE ARMS INN CONTROL AREA

Reference has been made from time to time in these columns to the serious infection area at the so-called Pembroke Arms Inn property in the town of Pembroke, Massachusetts. This particular area has been referred to as the "Kittery Point" of Massachusetts because the seriousness of the damage was comparable to that on the Maine area and also because the Pembroke area has been of so much value as a demonstration, as was the case at Kittery for so many years. The Pembroke area has been visited by more persons than any other area in the State. It has served as an experimental laboratory, as well as a demonstration area for the use of State and Federal officials in inspection trips in the Northeast.

The early history of the area has been fully covered in the "News" and in various official reports. Suffice it to say at this time that the area was first found during the 1917-1918 infection-scouting campaign. The first detailed study of the locality was made in 1918 at which time the infection was definitely traced to a patch of 18 black currants (R. nigrum L.) located within 75 feet of the pine area. The first control work at Pembroke was carried on at the time of this early survey when the immediate surroundings were examined for Ribes. In 1918 a crew of five men destroyed 283 wild black currants, 207 wild red currants, and 82 wild gooseberries.

In 1922 the area took on a new value because of its importance for service as a demonstration area in connection with the educational and service campaign then inaugurated. The district blister-rust agent made effective use of the area in securing local cooperation. At that time he reported that many owners promised cooperation on the spot after a tour through the damaged-pine area. In 1925, the town of Pembroke was listed for Ribes eradication work in the general control program planned for the initial eradication of Ribes from the white-pine producing areas in the State. In July of that year, the entire control area around the "Inn" property was reexamined for Ribes. Scattering bushes were found, and in all, 65 wild gooseberries, 14 wild red currants, 110 wild black currants, 18 "escaped" cultivated black currants and 12 cultivated red currants were recorded as having been found and destroyed.

The first infection notes on the area, record that 408 trees were tagged as infected. That was in 1918. No percentage figures were given in connection with this record. In January, 1924, two study plots were laid out and on one plot 64% of the pines were diseased and on the other plot 56%. At that time no infections later than of 1917 origin could be found.

In the winter of 1929-30, reinfection was first noted in connection with tree surgery experiments at Pembroke. The cankers then found by Agents Hodgkins and Brockway were recorded as 1 of 1926 origin, 1 of 1927 origin, and 2 of 1928 origin. In the spring of 1930 Agent Brockway reported two additional infections of 1927 origin and State Leader Perry



reported one of the same year.

This spring (1930) additional infections were noted and it was decided that Ribes of some sort must have restocked the area to a degree sufficient to cause an appreciable amount of reinfection. Accordingly, in May a four-man crew and foreman made a further reexamination of the area. In the swamp where the largest number of Ribes had been found in the 1925 control work, this year's examination disclosed the existence of 52 wild gooseberries and 69 wild black currants. There were no wild red currants to be found. To the south of the area but at a considerable distance from the "Inn", 8 red currants were found under cultivation. These latter bushes had been planted by new tenants on the property who had brought the Ribes with them when they moved down from the city. No other cultivated Ribes were found.

The removal of these Ribes in 1930 should take care of the area for at least another five-year period and probably longer than that, provided no one else moves down from the metropolis and brings their cultivated Ribes with them. This recent control work will also make it possible to continue to use the area as an outstanding illustration of the effectiveness of Ribes eradication in the prevention of the further spread of the rust. The incident testifies as well to the necessity for periodic examination to determine the status of infection conditions and possible repopulation of Ribes.

August 26, 1930.

E. M. Brockway, Mass.

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#### BLISTER-RUST CONTROL DISPLAYS

The Office of Blister-Rust Control was one of 3 offices in the Bureau of Plant Industry to send displays to the National Shade Tree Conference being held in the Cleveland Public Auditorium, Cleveland, Ohio, during the week of August 25th to 30th.

Mr. Gravatt of the Office of Forest Pathology, who was present at the Conference, states that the blister-rust display was given a prominent place in the exhibit and many people examined it. A number of the visitors remarked that they had worked on blister-rust control in the past.

\* \* \*

Our Office was fortunate enough to be chosen the one to represent the Bureau in a series of small displays put on in the rotunda of the new Department of Agriculture Building, in connection with the large exhibit staged by the Agricultural Experiment Station Editors of the country. The Agricultural Editors met in Washington from August 26th to 28th.

PLANT PEST CONDITIONS IN MASSACHUSETTS FORESTS

Seldom has the arboreal foliage in Massachusetts looked so green and healthy as it has thus far this season. This condition is due in large measure to the apparent inactivity of some of the pests which have done so much damage in the past, notably the gypsy moth, the brown-tail moth, and the satin moth. From personal observations and reports received from the several districts, there has been practically no "stripping" by the gypsy moth in the State this year, and comparatively little heavy feeding even, although some heavy feeding was noted in the town of Marion on Cape Cod. The explanation for this condition of affairs must come from the expert entomologists. Similar conditions prevail with the satin moth - that pest of poplars and willows, although some complete stripping has been noted in Barnstable County, particularly in the towns of Dennis and Yarmouth. The damage caused by the brown-tail moth is almost a memory, although occasional specimens are found by the local tree wardens and moth superintendents.

As to the condition of the pines, they too have benefited by the inactivity of the gypsy moth. Where Ribes are at all plentiful, we have no difficulty in locating an abundance of blister rust on pine as well as on Ribes. Where the Ribes are scarce, however, light infection is being reported. On the whole, except where infected pines are in close proximity, the wild Ribes found this season are showing a relatively light blister-rust infection. There are exceptions, of course.

In our western districts, we are disturbed to note the appearance of considerable "Needle Blight" which is causing the usual alarm on the part of local property owners. As to the white pine weevil, it is rather discouraging to report that present indications predict an approach at least to the 1929 peak of damage, although birds and parasites seem to be getting in some effective work in certain instances. The Pine Bark Aphids were quite active in many sections earlier in the season, and their presence resulted in the usual number of inquiries regarding control.

On the whole, conditions seem to be "looking up" pest-wise in Massachusetts thus far in 1930.

August 1, 1930.

C. C. Perry, Mass.

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ATTRACTIVE EXHIBIT STAGED IN THE NEW AGRICULTURAL BUILDING

A large exhibit was staged by the different Bureaus of the Department of Agriculture in the rotunda of the new Agricultural Building, for the Inter-American Conference on Agriculture, Forestry and Animal Industry, which opened at Washington, D. C., on September 8th. The entire rotunda was filled with the different displays, which were very interesting and well worth seeing.



Certain salient features of some of the more attractive displays are noted below:

1. The use of color, which not only added to the beauty of the display but attracted the attention of the delegates. The Bureau of Entomology made good use of color in one of their displays entitled "The Coddling Moth".

2. The use of models. This was used to advantage by several Bureaus, particularly Public Roads; and Plant Industry in its wax models of fruits.

3. The good arrangements of certain displays, that is, the spacing of the material in such a manner that the ensemble effect was not too crowded, as is often the case. In some cases only three striking photographs, neatly framed, were arranged on a large standard with a dark background, which made them stand out very distinctly.

We noticed two compact automatic Balopticons at the exhibit, displayed by the Bureau of Dairy Industry, which seemed to be attracting considerable attention and interest. These showed about 40 slides each, automatically.

The exhibit was well attended and much interest was shown by the delegates.

September 10, 1930.

Helen T. Wright. D. C.

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#### FOREIGN DISEASES THREATEN FORESTS

##### International Cooperation to Control Blights Urged at Inter-American Session.

Virulent diseases introduced from abroad are threatening American forests and international cooperation is needed, Dr. E. P. Meinecke of the Department of Agriculture told the Inter-American Conference on Agriculture, Forestry and Animal Industry meeting at the Pan-American Union today.

Characterizing the chestnut blight which has swept over the Appalachian region as "the greatest forest catastrophe in the world's history", Dr. Meinecke said that another very serious disease had just been discovered - the European larch canker. This most dreaded of European forest diseases, he said, was introduced on nursery stock from Scotland. Despite early and energetic control measures, he said, it is a menace to the extensive American larch forests.

##### Pine Disease Controlled.

When one of these diseases is introduced, he said, measures of control are expensive and put a continuous load on the forest industries. An effective method of control, he explained, has been found for the white pine blister rust, which introduced from Siberia where it lives on a species of pine to which it is harmless, has played havoc with one of the most economically valuable forest crops in the United States. \*\*\*.

(Clipping from "The Evening Star", Washington, D. C., September 11, 1930.)

NEW YORK ITEMS

Drought Shortens Eradication Season

The eradication season in New York State has been shorter than in previous years. Heavy infections on Ribes and the long drought through July and August have both contributed to early defoliation. Work in some sections had to be suspended around August 15th on account of leaf conditions. In District No. 1, it has been noted that the heavily infected bushes are the first to become defoliated. Due to the early defoliation alone the acreage covered will necessarily be smaller than in previous years.

State Checking Satisfactory

The general check system used in the State is proving very satisfactory. It is felt that the type of work performed on eradicated areas can be judged by the checker more accurately by the general check than by the former strip method of checking. This year two men were employed throughout the season in doing checking. Their previous record in detecting bushes qualified them for this type of work. Nearly all eradicated areas have been checked this year and with few exceptions the quality of work has been very satisfactory.

Woodland Mapping

It is expected that as soon as the eradication season closes, and we have had time to catch our breath, work will be resumed in woodland mapping. Our experience this year in using these maps has been very gratifying and has proved beyond a doubt the feasibility of this undertaking. When a township is mapped a foreman has a picture before him of all pine areas. The exact condition of these areas may then be determined during the eradication season.

Personals

Former Agent Paul Richmond, who now is in charge of the new Conservation Department nursery for growing shade trees for county and State highways at Stormville, N. Y., reports his first season as being very satisfactory. Despite his late start in getting under way, the small trees are coming through in fine shape. Maples, oaks, and elms make up the bulk of the plantings. Some seed beds were started and are showing up well. Richmond has a mighty good tan and doubtless his muscles are harder by hoeing trees all summer than they would be had he pulled the stray Ribes left by his former foremen.

\* \* \*

Agents Harpp and Strait reported to Albany August 25th to drive back a new Federal Ford-Tudor Sedan.

Aug. 28, 1930.

H. G. Strait, N. Y.



A FURTHER NOTE CONCERNING THE FOREST WORK CAMP IN CONNECTICUT

In the August Blister Rust News a full statement was made concerning the inauguration of a Forest Work Camp in Connecticut. This camp, which has been undertaken as an experiment, has for its first aim the further improvement on the State Forests, and second, the giving of temporary employment. State Leader Riley, under date of August 14, writes as follows:

"The camp is located on The Peoples Forest, a tract of woodland comprising 1,850 acres in the town of Barkhamsted. It is interesting to note that this forest comprises several tracts given to the State entirely by private parties.

"When the writer visited the camp on the opening day he found seven or eight men, ranging from 18 to 35 years of age, representing several occupations including a clergyman and a nurseryman. The camp was in charge of the District Forester who assigns and supervises the work. He is assisted by the resident ranger.

"At night the writer gave an informal talk on blister rust to the men, explaining the nature and life history of the rust and how to recognize it on pine and Ribes, in preparation for a week of eradication work which was to start next morning. The forest has been previously scouted by a blister-rust agent and the local ranger. Some of the crew work had already been done by the regular men employed on the Forest but enough remained to occupy the crew for the week. Infection on pine runs rather heavy and currants and gooseberries are abundant so the men are assured of good experience. Reports have not yet reached the State Leader concerning the eradication work but Mr. Ross, the Forester for the Forestry Association, one of the sponsors of the scheme, states that the State Forester is highly pleased with the work of the men.

"This scheme of a forest work camp appeals to the writer as possessing a good deal of merit in that it provides work for those in need of work and who are at the same time interested in forests and wild life. It introduces the men to actual working conditions in the forest and furthers forest improvement to the extent of their labor. The scheme has educational and an immediate practical value."

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RIKER MOUNTS AVAILABLE AT WASHINGTON

The office at Washington has about 18 small riker mounts available for showing blister-rust infections on gooseberries and currants. The boxes are 4 + 5 inches in size and one side is covered with glass. Any of the agents desiring them for display purposes may secure them by writing the Office of Blister-Rust Control.

THEY GROW THEM LARGE IN CLINTON COUNTY

When the Wm. Fox area, town of AuSable, Clinton County, N. Y., was being eradicated this season, the men found a very large pasture gooseberry (Ribes cynosbati). At first they could not believe their eyes. The land owner said it must be a cross between a wild rose and thornapple tree. Then the foreman examined it a little closer and had to decide it was some gooseberry bush. It being late in the day and the men a little tired after pulling many large Ribes all day, they decided not to tackle it then. As a matter of fact they really did not know just how they would go about to extract it from old Mother Earth's clutches, not knowing whether they would have to get a set of pulley blocks or use dynamite. The next day it looked larger than ever and that night the foreman told me about it so I went up the following day to see if they were stretching their imagination or not, and sure enough it was some bush. I really believe a full crew could have spent a very pleasant noon rest in the shade of the old boy's branches. Perhaps I have enlarged my vision of it a little, but the following data secured by myself and Mr. Littlefield will give you a fair idea of its exact size and if any one would like a picture of it, write to Mr. H. L. McIntyre.

A total of 1,947 separate measurements were taken to determine the live stem of the bush and a local garage firm loaned the use of their adding machine to compute these measurements. The following measurements of the bush may be of interest:

Height .....	8 feet.
Spread of top .....	5 feet wide.
	7 feet long.
Number of canes .....	77
Total live stem .....	1,610 feet.

Greatest amount of live stem on any one cane .....	72.5 feet.
Longest cane, which was 5 years old .....	8.3 feet.
Greatest length of one cane produced in a single year's growth. (This cane was a 1930 basal shoot.) .....	4.3 feet.

The greatest diameter of any cane, measured across the base, was 1-1/8 inches. This cane, which was 11 years old, was not the oldest, however, as one other, 3/4 inches in diameter, was found to be 12 years of age.

There were 5 canes over 6 feet in length. The measurements of these, together with their respective ages are given below: The diameters ranged from 1/2 to 3/4 of an inch.

<u>Height in Feet</u>	<u>Age of Cane</u>
8.3 .....	5 years
7.8 .....	5 "
7.6 .....	5 "
7.0 .....	8 "
6.4 .....	3 "



These canes, of course, got the largest part of their growth during the first year. This point is brought out by the measurements of the 6 current years (1930) shoots on the bush. These, including the one mentioned above, averaged 2.7 feet each.

This may not be the prize gooseberry but I think it was a fair sized one for Ribes cynosbati. I might mention that we eradicated several areas where 40 per cent of the bushes would average between 500 and 800 feet of live stem.

H. W. Holcomb, N. Y.

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#### THE LARGEST KNOWN PINE INFECTION CENTER IN IDAHO

The heaviest pine infection center known in the Idaho white pine belt was recently discovered at the Long Meadow infection area found last fall. This constitutes the third infection center found in the Long Meadow area. \*\*\*.

The infection dates back to 1923. Practically all of the pines are infected and cankers are very numerous, often several hundred to a tree, and many to a branch. The cankers are chiefly in the young stages previous to aecial production. Damage will resemble that at Daisy Lake, British Columbia, in that the trees will be killed by the death of branches, rather than by cankers entering the trunks. Trees infected are twenty-one to forty years old and from five to thirty feet high.

The Ribes responsible for this infection consisted of R. lacustre and R. viscosissimum associated with the infected pines. There is indicated the importance of these two Ribes in the intensification of the rust on pines.

H. N. Putman.

(Extract from "Western Blister Rust News Letter", July 15, 1930.)

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#### THINK IT OVER!

1. "First plan your work, then work your plan."
2. "Cooperation is the life of accomplishment."
3. "Tomorrow's success depends upon today's preparation."
4. "Most men do not accomplish more because they do not attempt more."

ESCAPED FIBES NIGRUM IN OTSEGO COUNTY, N. Y.

Recently we found and uprooted a few English black currants, Ribes nigrum, on a farm about 3 miles from the village of New Berlin, Otsego County, N. Y. These currants were growing in an open field where apparently there has never been a house or garden; at least as far as we could learn from old settlers, the field has never been cultivated. Neither has there been a house near the spot, according to the old timers who live in the neighborhood.

We found part of the black currants growing very close to an old stump which is about three feet in diameter and somewhat decayed. The bushes were large and in my opinion old ones.

N. H. Harpp, N. Y.

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PLANT DISEASES COST U. S. \$1,500,000,000 ANNUALLY

One and a half billion dollars annually is the average amount of the injury plant diseases do in the United States each year, says Dr. R. J. Haskell, plant pathologist of the U. S. Department of Agriculture, who is in charge of the plant disease survey of the Bureau of Plant Industry. Other nations suffer proportionate losses, although statistical information is lacking in many countries. In Canada the estimated annual losses average about 15,000,000 English pounds. England estimates that plant disease takes an average of 10 per cent of the value of its plant products.

Doctor Haskell cites many instances of severe losses of agricultural wealth as the result of disease. "It is estimated", he says, "that the United States wheat crop is reduced by about 97,000,000 bushels a year, on the average, by rusts, smuts, root rots and other diseases. The corn crop is curtailed by approximately 271,000,000 bushels and white potatoes by about 95,000,000 bushels annually."

He points out that the very foundation of the banana industry is threatened by a fungus which causes what is known as the "Panama disease", the losses from which runs into the millions. The cacao industry suffers from the fungous disease "witches broom"; the rubber plantations of British Guiana and Surinam from the "South American leaf disease"; and in Peru the stem rust ravages wheat, and a blight the potato crop.

Rust, he says, which has wiped out the coffee industry of Ceylon and India, has not yet reached the American tropics, but in other coffee-producing regions it has either destroyed the industry or greatly handicapped it by making it impossible to grow some of the choicer varieties of the bean. In India and Ceylon planters have been forced to substitute tea as a crop in areas affected by the coffee rust.

(From the "Official Record", August 28, 1930.)



"FOREST MINDED" IN MASSACHUSETTS IN 1856

My attention was recently directed to a committee report in the Third Annual Report of the Secretary of the Massachusetts Board of Agriculture which seems to be an early indication of "forest mindedness". This report is very likely one of the first official documents in the Commonwealth to call specific attention to the need for reforestation and forest conservation. It is of sufficient interest to be "unearthed" from the covers of the voluminous report of which it is a part. The report follows:

"Report of the Committee on Forest Trees"

William S. Clark, Chairman.

"It is well known that many countries, which were formerly well watered and populous, as portions of Egypt, Syria, and Persia, have, by the destruction of the forests, been converted into treeless, arid, uninhabitable wastes. The same change is rapidly coming over our own land, and, unless arrested soon, will produce equally disastrous effects.

"Forests are useful in many ways; they furnish fuel and timber; they absorb carbonic acid; and purify the atmosphere by evolving in its place an equal amount of oxygen; they attract electricity and rain from the clouds, and by their shade prevent the too rapid evaporation of water from the earth; and they exert a wonderful power in decomposing rock, loosening and deepening the soil and supplying it with a vast amount of vegetable matter.

"Did the space allotted to this report permit, it would be interesting to consider at length the question, whether the members of the society could not profitably transform one-half or at least one-third of their overlarge farms into plantations of valuable trees. Would it not pay better to have a plantation of healthy pines growing rapidly every year, and at the same time benefiting the soil, beautifying the landscape, and purifying the air, rather than to own a barren, sun-burnt, old field, which will yield ten bushels of rye per acre, once in three years? Would it not be well to have fine forests of European larch at work, decomposing the granite rocks of the hill pastures, and at the same time, protecting the thin turf and cattle from the scorching rays of the sun, and breaking the furious wintry blasts which are stripping off the snowy covering, so kindly furnished to keep out the cold; and in addition to all this, attracting every neighboring thunder cloud, disarming it of its deadly power, and absorbing its life-giving electricity and its refreshing waters, and receiving from every passing breeze its poisonous carbonic acid to be converted into carbon for valuable timber and wood, and oxygen for the support of man and the animal kingdom? Would it not be well to inquire whether white oak, white ash, locust, black walnut or hickory could not be advantageously planted on some of the better soils;

or, whether every man may not as well have an orchard of sugar maples as one of apple trees?

"These suggestions are thrown out, in the hope that the members of the society may be persuaded, at least, to think of the subjects thus briefly hinted at, to be cautious in the use of the axe, and to entertain a suitable reverence and affection for the noble old trees, which are ever toiling silently but faithfully for their welfare."

This committee report might well have been written in more recent times, but it is dated January 21, 1856. When it is considered that the agricultural leaders of that period were bent on increasing their areas of tillable soil, it must have taken a bit of courage to submit such a report recommending that a portion of the then agricultural lands be set aside for purposes of producing a crop of timber.

August 1, 1930.

C. C. Perry, Mass.

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CONTROL WORK IN BUCHANAN FOREST DISTRICT, PA., COMPLETED

The work in Buchanan Forest District has been concluded for the present (August 17). The conditions here seem about the same as those in Rothrock District, the larger portion of the pine-growing areas being Ribes-free or having very few Ribes.

Wild Ribes consist of R. rotundifolium and R. cynosbati, the latter being in the minority. There are a good many more pine lots to be examined in the southern part of this district but the conditions are such that it does not seem advisable at this time. The drought has dried the wild gooseberry bushes to such an extent that the leaves have either fallen off or have dried to a crisp and powder up in one's fingers on trying to examine them. Many of the young pines apparently have died from the dry weather and trees up to 10 years old have needles entirely brown; smaller ones have suffered more severely.

Never in my experience in blister-rust work have I seen it more difficult to accomplish the purpose of scouting for the disease on Ribes or pines. At the beginning of the season indications pointed to a heavy infection on Ribes but the dry weather has so changed conditions that there is very little infection on the Ribes at this time. Only the Ribes growing in moist places retain their foliage.

L. W. Hodgkins, Pa.





WISCONSIN INDIANS ON RAMPAGE

Two Crews Warring on Ribes at Indian Reservation.

The Indians on the Menominee Reservation have declared war; but on the currant and gooseberry bush. Four hundred acres have been eradicated by 2 Indian crews recently. The white pine on the Reservation is of good quality, and is the best large stand of white pine in Wisconsin. The timber area is managed on a sustained yield basis and with proper protection should produce good quality timber indefinitely. The Indians operate a large saw mill on the Reservation, this probably being the only mill operated by Indians in the United States.

The management has already made plans for 1931 Ribes eradication.

T. F. Kouba, Wis.

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GROWING WHITE PINE AND RIBES.

Mrs. G., whose summer home is just outside of Trenton village on the Poland road, has some 100-150 nice white pine (20-25 years old) growing in and about her grounds and along the road. While casually driving through that way recently after visiting a crew, my eye caught the tell-tale brown flag. I stopped and investigated and found the trees along the roadside literally plastered with blister rust (branch infections). On my return I stopped to see Mrs. G. and asked if she had noticed anything wrong with her pines. She replied that she hadn't. I then informed her that her trees were infected with blister rust and made further inquiries as to the possible presence of currants and gooseberries in the neighborhood. She told me she had a regular young plantation of gooseberries and currants out back of the house. Upon investigation I found the finest layout of cultivated Ribes I had ever seen; four or five great long rows (perhaps a total of several hundred plants) of gooseberries and currants of all descriptions. Just imagine such a layout of Ribes sheltered by a border of white pine!

Here were white pine 6"-8" D.B.H. with large trunk cankers. Several trees were just all but dead and the rest all badly diseased. With such striking proof, it of course was not necessary to go into very much detail to make Mrs. G. understand what had taken place or to convince her that the only logical thing to do was to destroy her currants and gooseberries. This she promised to do and since this was going to be quite a task I suggested that she get a truck or horse and use a chain to do the job. Upon passing through this way on a similar mission a few days later I noticed she had made good her promise, for instead of four or five rows of thrifty gooseberries and currants I found several great piles of withering bushes about ready for the torch.

As near as I can ascertain, this perhaps is one of the oldest and most striking examples of blister-rust infection in District 8.

T. P. Woolschlger, N. Y.



SCOUTING FOR BLISTER RUST IN THE GALLITZIN AND  
LOGAN FOREST DISTRICTS, PENNSYLVANIA.

Mr. Hodgkins states that the preliminary scouting work in the above districts has been completed (August 30). The survey was made in company with some of the Forest officers.

"In the Gallitzin Forest District several thousands of acres of white pines have been planted by private owners. We visited about a dozen of these plantations and examined portions of them to determine the presence of Ribes and blister rust. Some of the plantations have been placed in old fields and are Ribes-free. Three of the plantations have Ribes present but no rust was found. Two of the owners with whom we talked said they would take out the Ribes next spring. No blister rust was found in the District.

In the Logan District we saw portions of the majority of the white-pine plantations and located blister rust in 3 places; 1 at Pole Bridge, 1 at Greenwood Nursery, and the other near Miller Field plantation on private property. Ribes were few in number where they were found, and in many of the plantations none were found. There are a good many native pines in this District and some very good stands were seen. At Pole Bridge, the first location of rust found, there are many Ribes present but not many pines. A few Ribes were seen near the Greenwood Nursery, largely sprouts, and small bushes. A zone of fifteen hundred feet around the nursery was eradicated in 1928 and 1929. The infection on pines took place in 1926 and 1927."

L. W. Hodgkins, Pa.

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MICHIGAN STATE LEADER SENDS SEMI-MONTHLY  
MEMORANDUM TO AGENTS.

A good wrinkle has come to light in Michigan which makes for esprit de corps of the field men. State Leader David J. Stouffer, seems to be responsible for this innovation, for which he is to be congratulated. The idea is that regularly, at least through the summer season, it is of distinct advantage for each field man to be made aware of what is going on in other districts of the State, so a memorandum of 1 to 2 pages is sent out from the Lansing Office to the field force concerning the work of the preceding 2 weeks. This is particularly of value in Michigan, a large State where blister-rust control work is just getting under way and where the men are comparatively new.

In mid August there was a memorandum on "Black Currant Infections" and on August 29, there was a memorandum entitled "Educational Activities in Connection with White Pine Blister Rust Control".

Edit:-Do any of the other States follow such a plan during the field season?

BLACK CURRANTS HEAVILY INFECTED

The BR-26 cards for the black-currant eradication crews in Marquette and Dickinson Counties, Michigan. for the week ending August 16, show 57% of black currants eradicated in Dickinson County as being infected with blister rust, and 83% of those eradicated in similar period in Marquette County infected. The first blister rust on black currants was found in Gogebic County on August 7. Since that time more has been found, increasing as the work progresses.

Black-Currant Eradication Progressing in Upper-Peninsula

The Dickinson County crew completed their work and are now working in Menominee. (A later report dated September 5, states that the black currant eradication in the city of Menominee has been completed with the finding of 150 bushes). Gogebic County crew reports the completion of Ironwood city proper but has yet the city of Bessemer and several mine locations in the vicinity of Bessemer and Ironwood. Some of these locations contain as high as 500 people.

Marquette County crew reports completion of cities of Ishpeming and Negaunee but still has considerable of the country area round these two cities and also several smaller towns and mine locations.

Crew Moved to Iosco County

The black-currant eradication crew under the leadership of Agent Thompson has just completed eradication of nigrum from Iosco County, to which they moved from Grand Traverse County. Infections were found in several of the townships but only a few black-currant bushes were destroyed compared with any other county in which we have worked this year. Infections were also located on americanum, cynosbati and vulgare. The vulgare infections were on the cultivated red.

D. J. Stouffer, Mich.

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BLISTER RUST FOUND ON PINE AND RIBES IN  
PENN STATE FOREST, MIFFLIN CO., PA.

Hodgkins reports that the blister rust was found July 28th on pine and Ribes in the Penn State Forest, Milroy, Mifflin County, by the District Forester. This is the first time that the rust has been found in this forest district or in Mifflin County. The rust was found in a circle radiating out from a large Ribes rotundifolium bush for about a hundred feet. The first pine infection was on 1928 wood and was found by Asst. Forester May.

Other infections were located up to August 2, in the district at 3 widely separated locations. None of them have done serious damage as yet. Two were in plantations and 1 in native pine adjacent to a plantation. Ribes rotundifolium is the alternate host in each case. This species seems quite general in this district.



BLISTER-RUST CONTROL EDUCATIONAL ACTIVITIES IN MINNESOTA

July 1, 1929 - to JULY 1, 1930.

While our educational work in Minnesota the past year was not as extensive as that in some other States, we feel that we have made a start. The State Leader does most of this work, assisted to a limited extent by the temporary men during the summer. Here follows a summary of our results.

Addresses

- 38 Reaching an estimated total of 2,000 people
- 25 lantern slide lectures to schools, Boy Scout Troops, and the Newman Club of the University of Minnesota.
- 2 talks - school lesson plan -  
Convention County School Superintendents  
" Agricultural teachers.
- 1 lecture - Forest Pathology Class of University of Minnesota.

Newspaper Items

- 15 items - 111 inches, including one article in the United States Daily.

Magazine Articles

- 8 forestry - in The Farmer and The Gopher Countryman.
- 1 Blister Rust and Ribes Substitutes, by Prof. Alderman, Editor, Horticultural Dep't. - in The Farmer.
- 4 Blister Rust articles in the Gopher Peavy 1930, and in Fins, Feathers and Furs.

News Letter Items

The Smoke Screen - published by Minnesota State Forest Service. It is our policy to have something concerning Blister Rust Control appear in The Smoke Screen every month.

Local Papers

No records.

Fair Exhibits

State Fair ) Reaching an estimated total of  
2 County Fairs) 127,000 people.

L. B. Ritter, Minn.

BLISTER-RUST DEMONSTRATIONS AT MICHIGAN FAIRS

A blister-rust exhibit was planned by Mr. John Carton for the following Fairs as a part of the State Department of Agriculture regular exhibit:

Ionia Free Fair	Aug. 11 - 16
U. Peninsula State Fair-Escanaba	Aug. 18 - 23
State Fair at Detroit	Aug. 31 - Sept. 6
Jackson Co. Fair	Sept. 8 - 13

In addition to the above exhibits, several smaller demonstrations are planned for the following Fairs:

Gogebic County	Aug. 12 - 15
Marquette "	Sept. 2 - 6
Dickinson " Fair at Norway	Aug. 30 - Sept. 1
Iron Co. Fair at Iron River	Sept. 2 - 5
Baraga Co. Fair at Baraga	" 17 - 21
Iosco " " " Tawas City	" 10 - 12
Oceana " " " Hart	" 16 - 20
Grand Traverse Fair at Traverse City	" 15 - 19

This will insure the placing of an exhibit in every county in which we have worked this year with the exception of Menominee. However, Menominee did not have a Fair this season but will be served by the upper Peninsula State Fair at Escanaba and the Dickinson State Fair at Norway.

\* \* \*

A blister-rust exhibit was placed at Traverse City in a store front on the main street during the Cherry Festival held there. This exhibit was planned by Mr. Carton and Mr. Mandenberg and carried out by Messrs. Shetter and Lamoreaux.

D. J. Stouffer, Mich.

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WHAT TO DO IN CASE OF ACCIDENT

This is the title of Miscellaneous Publication 21, issued by the U. S. Public Health Service. Mr. Avery has secured several copies which will be distributed to State Leaders and Agents as far as they go. If you don't receive a copy and wish one, write direct to the Public Health Service. The publication gives information on how to administer first aid for several different kinds of accidents or in case of sudden illness.

J. F. Martin.



EDUCATIONAL MATERIAL AVAILABLE

Addition to Supplement of the Blister Rust News,  
Vol. 12, No. 4, April, 1928.

Copies  
Available

U. S. Dept. of Agric. Material and Publications

- J. A. R. Reprint. "Gipsy-Moth Larvae as Agents in Dissemination of the White-Pine Blister Rust". by G. Flipppo Gravatt and G. B. Posey. 45
- Leaflet, Small 4-page. "Protect White Pine from Blister Rust". 70,000
- Mimeographed Publications. "Field Methods of Eradicating Wild Currant and Gooseberry Bushes". by E. C. Filler. 13
- Mimeographed Publication. "Fourteenth Annual Rept. Blister-Rust Conference. November, 1928. 23
- Mimeographed Publication. "Grossularia and Ribes Species in the Northeastern States (With Photographs Showing Field Characters of Eastern Ribes)", by E. C. Filler. 131
- Mimeographed Publication. "Studies of Ribes Ecology", by A. E. Fivaz. 25
- Miscellaneous Publication No. 27. "Black Currant Spreads White-Pine Blister Rust", by Samuel B. Detwiler. 7,392
- Multigraphed Publication. "Forestry News - What It is, and How to Write It", by C. E. Randall. 6
- Notice of White-Pine Blister-Rust Quarantine No. 63. Plant Quarantine and Control Administration. 25
- Supplements to News Letters -
- "A Distinguishing Character of the Wild Black Currant (Ribes americanum Mill.) With Notes on R. nigrum and other Ribes species.", by Roy G. Pierce. Vol. 11, No. 6, June, 1927. 32
- "A Summary of Educational Material on Blister Rust Control and Allied Subjects Available at the Washington Office", by Roy G. Pierce. Vol. 12, No. 4, April, 1928. 31
- "Some Experiments Made with Regard to Sprouting in Two Species of Wild Gooseberry (Ribes rotundifolium Michx. and R. cynosbati L.), by E. W. Littlefield. Vol. 14, No. 3, March, 1930. 150

Supplements to News Letters (Cont'd)

Copies  
Available

"Some Observations on the Sprouting and Reseeding of Skunk Currants (Ribes glandulosum) at North Conway, N.H., by H. H. York. Vol. 10, No. 7, July, 1926. 67

"Susceptibility of Different Aged Pine Needles to Blister Rust and Relation Between the Number of Infections on Pines and the Persistence of Their Needles", by J. L. Richards. Vol. 11, No. 9, September, 1927. 67

"The Deerhead Leaf Count. A Study of the Leaf Bearing Capacity of Ribes, and of Their Re-Establishment After Eradication", by E. W. Littlefield. Vol. 11, No. 5. May, 1927. 59

Tag, 3 1/8 x 6 1/4". "Blister Rust Killed This White Pine". 4,000

Technical Bulletin No. 87. "White-Pine Blister Rust: A Comparison of European with North American Conditions", by Perley Spaulding. 1,272

State Material and Publications

Connecticut -

Circular 70. Connecticut Agricultural Experiment Station. "Nursery Sanitation Zones - White Pine Blister Rust Control", by J. E. Riley, Jr. 7

Massachusetts -

Manual for Field Men (With Photographs Showing the Leaves of Currants and Gooseberries). 1930 Edition. 100

Minnesota -

Mimeographed Publication. "White-Pine Blister-Rust Control", by Lawrence B. Ritter. 32

School Card Showing Currant and Gooseberry Leaves Infected with Blister Rust 125

New Hampshire -

Foreman's Manual of Instruction, (With Photographs Showing the Leaves of Currants and Gooseberries). 9

Mimeographed Sheets. "Answers to Questions Often Asked Regarding White-Pine Blister Rust Control (With Particular Reference to New Hampshire)", by G. F. Richardson. 47



State Material and Publications (Cont'd)

New York -

Bulletin 17, New York Conservation Dept. "Lesson in White  
Pine Blister Rust Control", by H. L. McIntyre 17

Pennsylvania -

General Bulletin No. 457, Pennsylvania Dept. of Agriculture.  
"White Pines and the Blister Rust", by W. A. McCubbin. 39

Rhode Island -

Bulletin No. 3, Bureau of Entomology and Plant Pest Con-  
trol, R. I. "The Black Currant Menace", by A. W.  
Hurford. 12

August 27, 1930.

Roy G. Pierce.

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SOME RIBES RETAIN LEAVES

The writer finds that Ribes pulled to date in the town of Lebanon, N. Y., still have considerable leaf-bearing surface and that eradication can still be carried on for a few weeks.

It was very interesting to note on the Newcombe job this morning, that the area near the road, which had been cut with the scythe about 3 weeks ago, had some Ribes growing there which had sent up sprouts during the 3 weeks to a height of 6 inches.

Blister-Rust Demonstrations

The blister-rust demonstration at the Nassau Fair held Aug. 19-22, both day and night, attracted considerable attention, although the attendance was below that of previous years. Many people seeing the exhibit remarked "Isn't that the disease we saw on our trip north?", which speaks well for the roadside demonstration in that part of the State. The Schaghticoke Fair to be held Sept. 1-4, both day and night, promises to be considerably better, as far as attendance is concerned.

Aug. 25, 1930.

Henry Dorr, Jr., N. Y.

PRINTING AND BINDING COSTS MUST BE KEPT DOWN

Gentlemen:

In a memorandum from the Director of Information, dated August 25, in keeping with the economy program the Bureaus and Offices of the Department have been called upon to keep their printing and binding costs at a minimum for the current year. A part of that memorandum reads as follows:

"Brevity is a desirable element so long as it does not interfere with scientific precision or accuracy. Consequently, renewed effort by authors and editors to reduce unit costs will probably enhance rather than decrease the value of department publications.

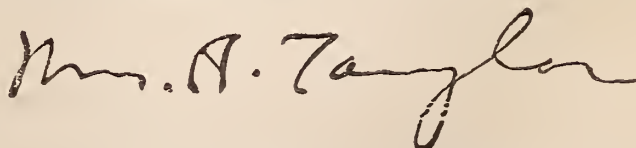
"I have instructed the editors in the Division of Publications to reduce the size of manuscripts whenever possible, but it will be much more satisfactory if deletions and reductions in this office are made unnecessary by careful preparation and editing in the bureaus."

In furtherance of the policy outlined above it is requested that before any manuscript is submitted from your office in the future it be carefully scrutinized, especially with regard to the necessity for tables, and that the text be reduced as much as possible without sacrificing any essential part. A more careful preparation of manuscripts will obviate costly changes in proof and accomplish the object in view.

You are also requested to scrutinize carefully all requests for job printing. There have been one or two instances where expensive changes have been made in proof because of laxity in the preparation of copy, but for the most part I think our people have been careful about those things. Cost can be reduced also by ordering a year's supply at one time rather than ordering two or three times during the year as has been the practice in some cases in the past.

It is desirable that this Bureau show the Secretary's Office its usual spirit of cooperation in this latest demand made on us.

Very truly yours,



Chief of Bureau.



A M O N G O U R S E L V E S

Mr. W. A. Rockie, formerly Assistant Pathologist of the Western Office, was transferred on August 31st to the Bureau of Chemistry and Soils, where he has a position as Scientist in Soil Erosion.

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Mr. J. A. Cope resigned his position as blister-rust agent on August 31, to return to his former position of Extension Forester at Cornell University, Ithaca, New York.

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Former Blister-Rust Agent I. S. Bowlby, who is now District Forester at Bath, New York, writes under date of August 18: "I will be very glad to have my name continued on your mailing list for the Blister-Rust News. White pine is very scarce in my new district and I have not yet found any blister rust either on pine or Ribes".

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Miss Beatrice McCormick returned to the Washington Office on September 8th after a three weeks' visit with relatives in Chicago.

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Mrs. C. J. Photis, stenographer in the Washington Office, is visiting her husband's people on the island of Nissyros in the Aegean Sea. She writes entertainingly of a trip to Saloniki and Sarris:

"In Saloniki there is a triumphal arch over the road that leads from Rome, to Constantinople. It is marked the liberation of the Macedonians by Philip, the father of Alexander the Great, 2,000 years before Christ. The Greek mountaineers in the city for a day were very picturesque. In Sarris you see all sorts of transportation facilities - the modern automobile and trucks, Chevrolet, Ford, Oakland, every make of American and European cars, also horse-drawn carriages and oxen and a curious looking animal that is not an oxen; I guess it is a buffalo, they are always black in color and larger than a common ox. Also there, I saw three camels with packs on their backs; the first time I ever saw a camel outside the circus."

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Mr. Douglas Drake of St. Louis Missouri, dropped in at the Washington Office recently to see old friends. Mr. Drake was employed as Assistant Clerk in this Office in 1927.

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P U B L I C A T I O N S

Blister Rust

Clepper, H. E. "White Pine Blister Rust: A Forest Protection Problem", in the Anthracite Forest Protector, March-April, 1930, Vol. 4, No. 4, p. 3-4.

Petersons, P. "Checking Experiments Against Cronartium ribicola Dietr. and Septoria ribis Desm." - Rept. Latvian Inst. Plant Protect. 1928-29, p. 5-7, 1 fig., 1929. (Latvian, with English summary.)

Of the four fungicides tested in Latvia during 1928-9 against Cronartium ribicola and Septoria ribis on currants, viz., lime sulphur (32° Beaume), Bordeaux mixture, Burgundy mixture, and ammoniacal copper carbonate, the first-named, applied at a strength of 1 in 50, proved most satisfactory and economical (cf. R.A.M., viii, pp. 254, 584.)

Root, George A. "The Status of White Pine Blister Rust in the West". Monthly Bulletin of the Dept. of Agric., State of California, July, 1930, Vol. XIX, No. 7, p. 510.

Q U A R A N T I N E S

Dr. W. E. Britton, State Entomologist of Connecticut, has recently (July 15, 1930) published two circulars relative to the transportation of nursery stock in Conn. (Circular 71 of the Conn. Agric. Experiment Station), and in the United States and Canada, Circular 72 of the Conn. Agric. Experiment Station at New Haven.

Circular 71 gives a page and a half to digest Quarantine 63, while Circular 72 gives a page to white-pine blister rust and to nursery sanitation on account of the rust. Connecticut has legally established control areas around ten nurseries so that five-leaved pines can be grown in blister-rust-free areas.

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REVISION OF WHITE-PINE BLISTER RUST QUARANTINE 63  
IN PRINT.

The Plant Quarantine and Control Administration has had printed the latest revision of Quarantine 63, relative to the white-pine blister rust. Copies have been requested sent to each of the regular blister-rust employees. Others desiring copies of this revision may secure them by writing to the Plant Quarantine and Control Administration, Washington, D. C.











# THE BLISTER RUST NEWS



October, 1930.

Volume XIV

Number 10

U.S. DEPARTMENT of AGRICULTURE  
BUREAU of PLANT INDUSTRY  
OFFICE of BLISTER RUST CONTROL





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UNITED STATES DEPARTMENT OF AGRICULTURE  
BUREAU OF PLANT INDUSTRY  
WASHINGTON, D. C.

T H E B L I S T E R R U S T N E W S

Issued by the Office of Blister-Rust Control  
and Cooperating States.

Vol. 14, No. 10

October, 1933

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DISPOSAL OF UPROOTED RIBES BUSHES IMPORTANT

Mr. R. A. Sheals, formerly in charge of our work in Rhode Island and now in Plant Quarantine and Control Administration, recently brought into the Office at Washington a piece of a wild black currant stem, R. americanum, which had several buds, few leaves and a great many roots. This piece of Ribes stem was found lying on the surface of the ground on an "eradicated" area near Ridgefield, Connecticut. The Ribes on this area were eradicated during the week of August 25, and this piece of stem apparently was broken off during the work and remained lying on the surface of the ground. The area was reinspected by Messrs. Adams and Sheals about 2-1/2 weeks after the eradication work was completed. This piece of stem was lying on the surface of the ground in a well-shaded, moist location and shows that a piece of stem of R. americanum under such conditions may propagate itself by layering.

Edit:- A conclusion can easily be drawn that it is important to see that the bushes when removed from the ground are placed in a position where they will dry out and die.

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KROEBER REPORTS MICHIGAN WET

In a letter dated September 30th to the editor, Mr. John K. Kroeber reports the damp condition of his part of Michigan:

"Because of a recent deluge our Marquette office was flooded, causing me to lose all of the specimens of Ribes I had collected. I have been busy getting the office back in shape but will soon get into the field again to collect more specimens. Ribes hudsonianum are not always easy to find up here; in fact, it seems to be our least common Ribes species."



PROGRAM

ANNUAL BLISTER RUST CONTROL CONFERENCE

Littleton, New Hampshire  
October 15th to 17th, 1930.

October 15th

6:30 P.M. - Dinner - Thayer Hotel, Littleton, N. H.

8:00 P.M. - General Meeting - Town Hall, Littleton, N. H. (Public Invited)  
Chairman: Judge H. L. Heald, President, Littleton Chamber of Commerce.

Greetings: Hon. Charles W. Tobey, Governor of New Hampshire.

Forestry in New Hampshire: Mr. J. H. Foster, State Forester.

The White Mountain National Forest: Mr. James E. Scott, Supervisor.

A Balanced Tax Program: Mr. G. H. Duncan, Sec'y. Recess Tax Commission.

October 16th

8:00 A.M. - Inspection of demonstration areas showing effectiveness of control and blister rust damage to reproduction and merchantable pines - under direction of Mr. L. E. Newman, State Leader. (Public Invited)

1:00 P.M. - General discussion of blister rust control problems - Community House - Littleton, N. H.

October 17th

8:30 A.M. - Leave Littleton - inspection of field conditions at Mt. Agassiz, Sugar Hill, Profile, and Flume enroute to Holderness, N.H. via Franconia Notch.

Noon: - Dinner - New Plymouth Cafe, Plymouth, N. H.

1:30 P.M. - Inspection of the results of forestry operations at Holderness, N.H. - under direction of Mr. O. M. Pratt, Owner. (Public Invited)

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YELLOW FLOWERING CURRANT, R. ODORATUM, SPROUTING FROM ROOTS

On September 13th I was engaged in removing several cultivated bushes (Ribes odoratum) in the town of Skowhegan, Maine. While removing these bushes I noted a peculiar condition. The roots from these bushes ran for long distances from the mother plant. They grew in a wavy condition; in some places they were near the top of the soil and in others they were from 12 to 14 inches deep in the ground. Where they were near the surface, shoots bearing leaves were produced. At the extreme end of these roots they branched into many smaller roots, and each of these were producing shoots with small, partially grown leaves. Some of the roots were 8 to 12 feet in length.

In several places where the owner had previously pulled up some of the roots, I found quite a few pieces of roots from 3 to 8 inches in length, each producing new shoots. If it is true, as it seems to be, that this yellow flowering currant produces new shoots from true roots, it certainly would be a mistake to leave many roots of this type of Ribes in the ground. I have not found Ribes rubrum (triste) americanum or grossularia producing this condition from the feeding roots; only from the crowns have I noted sprouting.

John MacG. White, Maine.

Edit:-We would appreciate receiving additional data from other agents concerning what they have observed on Ribes root sprouting. Have any of the other agents observed yellow flowering currants sprouting from what seemed to be roots? It will be remembered that Mr. Littlefield (see Blister Rust News Supplement for March, 1930) working with Ribes cynosbati and R. rotundifolium in New York, found that for 580 Ribes where the entire top and crown were removed, in only 1 case were sprouts sent up from the roots.

Note:-Some of the above-mentioned specimens were submitted to Mr. Littlefield of New York for his observation. Mr. Littlefield, under date of October 10, writes to Mr. White as follows:

"I have examined all the material quite carefully and in each case where sprouting occurred, the cross-section of the main axis at that point showed a well developed pith. This to me indicates rather definitely that the sprouts originated from subterranean root-like stems rather than from true roots. I rather believe, however, from speaking with various persons that this species occasionally does produce sprouts from roots and would be glad to examine and comment on any further material you may send in."



AN INSTANCE WHERE RIBES HIRTELLUM SPROUTED FROM ITS ROOTS IN R. I.

The editor in conversation with Mr. R. A. Sheals, formerly Blister Rust Leader in Rhode Island and now in Plant Quarantine and Control Administration, brought up the matter of a yellow flowering currant in Maine sending up numerous sprouts from its roots. Mr. Sheals stated that that was also his belief that this currant sprouted from its roots.

One particular instance of a gooseberry sending up sprouts from its roots recalled itself to his mind. In the spring of 1918 while working near the property of Norman Capwell near West Greenwich, Rhode Island, he noted a single instance where the smooth or wedge-leaf gooseberry, Ribes hirtellum, sprouted from its roots. The bush was growing in a very moist place near a brook. All of the crown and top had been removed about two weeks earlier than the second date of observation. At this latter time Mr. Sheals was surprised to see that several sprouts appeared from the exposed roots, the tops being an inch or so high. The explanation probably lay in the fact that the bush was growing in a very moist situation. This sprouting from the roots was so unusual that Mr. Sheals called the attention of the whole crew working near by to the fact that occasionally a gooseberry did send up sprouts even where the top and crown were completely removed.

R.G.P.

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RIBES HUDSONIANUM INFECTED IN UPPER MICHIGAN

Mr. John Kroeber, whose headquarters are at Marquette, Michigan, has written that blister rust has been found on Hudson Bay Currant, Ribes hudsonianum, near Ralph. This is the site of one of the oldest and largest infections in the Upper Peninsula. He writes (September 8) that "hudsonianum seems to be quite susceptible to the rust as about 50% of the plants I examined were infected. However, these specimens were collected only 3 miles from the Ralph area so there is a good reason for their being infected."

While R. hudsonianum has been found in a number of places in the Upper Peninsula as well as in several counties in lower Michigan, this is the first time, according to State Leader Stouffer, that it has been found infected within the State.

Edit:- Mr. W. F. Peel, blister-rust agent in Minnesota in 1925, was probably the first one to discover the rust on this species.

OBSERVATIONS ON WILD RIBES IN NORTHEASTERN CONNECTICUT

Wild Ribes infection appears quite heavy this year in the towns of Thompson, Mansfield and Somers.

Among the wild Ribes, R. americanum shows the heaviest infection, in many instances over four-fifths of the leaves on a bush being heavily infected. R. hirtellum follows, the heaviest infections occurring in wet and dry runs under a fairly heavy shade. R. vulgare shows very little susceptibility to infection this year.

The leaves on R. vulgare, and those on R. hirtellum growing under heavy shade are practically gone now, having commenced to drop about the first of September. R. americanum leaves are just beginning to go, but show up quite well yet due to the heavy infection. The leaves of R. hirtellum, growing in the open, will be the last to go as they are still quite green.

September 15.

Roderick M. Root, Conn.

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BLISTER RUST FOUND AT SYRACUSE, NEW YORK

Dr. Ray R. Hirt in letter of September 18, states that he has just collected the blister rust in the telial stage on the pasture gooseberry, Fibes cynosbati, in the wooded area in the outskirts of Syracuse. He states that this is the first time he has found blister rust in this area.

The records on file in the Office of Blister-Rust Control at Washington do not show any blister rust ever having been found at Syracuse. They do show, however, the rust being found previously in the same county of Onondaga. This previous occurrence of the blister rust was found by Messrs. Browning and Kelley in the town of Onondaga near the Onondaga Indian Reservation on September 24, 1917. While the blister rust may have been present in Onondaga County between 1917 and 1930, there are no records of such infection extant in the Washington Office.

R.G.P.

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REFORESTATION IN 1929

Reforestation in the United States last year restored to tree growth a total of 111,175 acres, the Forest Service of the United States Department of Agriculture reports. This included the planting of 31,430 acres by 21 States and two Territories, 5,920 acres by municipalities, 25,088 acres by industrial organizations, 539 acres by schools and colleges, and 1,516 acres by other organizations. Farmers planted 24,825 acres to windbreaks and woodlots, and other individuals planted 3,650 acres. The Forest Service planted 18,207 acres of land on national forests last year.



CLEPPER WRITES INTERESTING CIRCULAR ON BLISTER-  
RUST CONTROL IN PENNSYLVANIA.

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The Pennsylvania Department of Forests and Waters has recently (1930) published Research Circular 2 on "White Pine Blister Rust in Pennsylvania" by Mr. Henry E. Clepper, formerly in blister-rust control work in Pennsylvania. Mr. Clepper is now Senior Research Forester in the Forest Research Institute at Mont Alto, Pa.

Species Susceptible to Blister Rust

Eight species of soft pines, commonly known as white pines, and having their needles in bundles of five, are native to the United States. They are all susceptible to white-pine blister rust. The common white pine (Pinus strobus Linnaeus) is the only representative of this group native to Pennsylvania. Several five-needle white pines have been introduced into Pennsylvania, notably the western white pine (Pinus monticola Don), which has been planted experimentally for forestry purposes; the Swiss stone pine (Pinus cembra Linnaeus); and the Himalayan white pine (Pinus excelsa Wallich) which have been used extensively for ornamental purposes.

The genus Ribes includes the wild currants and gooseberry plants, as well as many varieties of cultivated currants and gooseberries. The species of Ribes growing naturally in Pennsylvania are:

1. Prickly gooseberry (Ribes cynosbati Linnaeus) - common in all parts of the State.
2. Smooth gooseberry (Ribes hirtellum Michaux) - found in pastures and swamps in the northern part of the State.
3. Smooth gooseberry (Ribes rotundifolium Michaux) - common in the northern part of the State.
4. Wild black currant (Ribes americanum Miller) - found in all parts of the State.
5. Skunk currant (Ribes glandulosum Grauer) - rare, found in wet places in the northern part of the State.
6. Prickly currant (Ribes lacustre Poiret) - not common, reported from the northern part of the State.
7. Swamp red currant (Ribes triste Pallas) - rare in Pennsylvania.

(To be continued in the November issue)

NOTES ON WORK IN PENNSYLVANIA

Messrs. May and Gackenbach spent most of the past month scouting and interviewing pine owners in McKean, Potter and Tioga Counties. Six new infection areas were found and the owners agreed to eradicate in the spring.

Skunk currants were found to be distributed rather abundantly on several of the infection areas. In each case, the land owner was entirely unfamiliar with this species, but knew the more common gooseberries and cultivated currants.

At a small nursery in Tioga County, ten white pine seedlings had been transplanted from the nearby woods and placed about ten feet from fifty flowering currant bushes and ten red currant bushes. Fortunately no infection was found on the pine or currants.

\* \* \*

Mr. Fatzinger spent almost three weeks with Mr. Filler and some of the local agents in the New England States and New York studying infection conditions and control methods.

October 8, 1930.

R. P. Fatzinger, Pa.

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ARE TELIA PRODUCED WITHOUT UREDINIA?

While supervising the crew in the town of Burnham, Maine, recently, I found a peculiar condition on Ribes americanum. In this vicinity these leaves generally show blackened areas where evidently the mycelium from the germinating aeciospores entered the stomata, but no uredinia are produced. This blackened area seems to dry up with no further production of the disease. On the bushes noted in Burnham the blackened areas were producing telial columns quite profusely. Is it possible to have telial columns without first producing uredinia?

J. M. White, Maine.

Note:-An answer to the above question is made by Mrs. Anne Gravatt of the Office of Forest Pathology, who has, with Dr. York, made considerable study of Ribes infections. She states that it is possible for telia to be produced under special conditions without having any uredinia produced, and this has been observed a number of times.

R.G.P.

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RIBES - NOT RIBE

I would like to call the attention of the field men to the fact that the word "Ribes" is spelled the same whether used to describe one bush or more than one. It is not proper to write of one "ribe cynosbati" for two reasons; 1st, because there is no such word as "ribe," and 2nd, it should be capitalized since the name of the genus is always capitalized.

R.G.P.



NOTES FROM RHODE ISLAND

Blister Rust at R. I. Fairs

Blister-rust demonstration material was included in 2 large forestry exhibits placed by the State Bureau of Forestry at Rhode Island fairs this fall. These included the Washington County Fair at West Kingston, held September 3 to 6; and the Pawtuxet Valley Fair at Fiskeville, held September 24 to 27. Over 30,000 people attended these fairs, and it is felt that the demonstrations placed were very effective in creating more interest in the various phases of forestry. Due to the interest of the fair officials in forestry, the Bureau was given the largest and most conspicuous booth at each of the fairs.

Forest Fires in R. I.

Rhode Island has had and is still facing its most serious forest fire season. Thousands of acres of brush and woodland have been burned over. These forest fires have had their effect on forestry activities including disease control work. A better forest fire prevention and suppression system must be established before individuals can be encouraged to start any intensive forest practice, including protection of the forest from blister rust. The State is accepting the challenge, and plans are being made to increase the efficiency of the work, and to strengthen the forest fire laws.

These activities are of interest from a blister-rust standpoint, because of their effect in obtaining individual support. Forest fires tend to discourage efforts in bettering forest conditions. Many fire-killed areas will not be productive of healthy and valuable tree stock for many years, thus artificial reforestation must be considered. White pine appears most adaptable for such planting. This planting may mean extending the white-pine blister rust control areas beyond the present white-pine regions. With this in view a record is being kept of all white-pine reforestation.

Black Currant Eradication

The four-man crew employed in scouting for and eradicating European black currants completed its work the latter part of September. The crew foreman, Mr. A. C. White, will continue scouting for these bushes during October and November. Efforts are being made to complete the black-currant eradication work by the end of the present fiscal year in all sections of the State, except in the metropolitan area of Providence, including the closely built up suburbs.

Oct. 9

A. W. Hurford, R. I.

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NEW YORK CONFERENCE

The New York agents held a conference at Albany on October 14, at which Dr. J. F. Martin and Mr. Roy G. Pierce of the Washington Office were present.

ORIGIN OF THE WORD "GOOSEBERRY"

Mr. A. E. Fivaz has recently sent in an interesting clipping from the New York Times for October 5, 1930, in which Dr. Frank H. Vizetelly traces the history of a number of words in common usage, among them the word "gooseberry."

"Only the theoretical student of words would identify the gooseberry with St. John's berry, yet according to Fox Talbot, in Germany plants of this genus are known as Johannisbeeren, that is, John's berries, because they are ripe about the time of the feast of St. John, midsummer. In Low German and in Holland the fruit named after him is Jans-beeren, and the word has been carelessly and ignorantly corrupted into Gans-beeren, of which our English gooseberry is a literal translation. Gans in German signifies a goose.

"We are at liberty to take or leave this as we please, for later scholars teach that plant names are often whimsical and inappropriate. Dr. Skeat held the view that the name might have been suggested by the Northern English grozers, and added that Burns used grozet, but in Irish we have grois-aid, Gaelic grois-eid, and Welsh grwys-en, all borrowed from English groser. In 1548 Turner wrote of the groser-bushe. The Old French groisele is of Teutonic origin, from Middle High German krus, curling and crisp, whence we get the krausbeere, or rough gooseberry, but plant names have been prolific sources for guesswork on the part of the theorizers in the field of etymology."

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WESTERN RIBES GIVE HIGH PER ACRE FIGURES

Ribes eradicators, using the hand pulling method, striving to protect Pinus monticola and P. lambertiana from blister rust, removed 1,337,794 Ribes bushes from 5,825.7 acres of timber in Montana, Idaho, Washington and California during the month of August according to monthly reports from the eradication projects. \*\*\*.

The Rainier National Park job showed the highest average per acre with 651 bushes per acre on 175.2 acres; the Savenac Nursery job in Montana came second in that respect, showing 482.48 bushes per acre on 112.5 acres. California had the lowest average per acre with 43.43 but was second in acreage with 1,589.

(Extract from the "Western Blister Rust News Letter," September, 1930.)

Edit:- Even these high figures do not touch the figures for Cloquet, Minnesota, as reported by Ritter in the August Blister Rust News. Here in an area of 18 acres, including a swamp, 46,900 Ribes bushes were pulled, making the average number per acre 2,605.



DR. GUSSOW URGES THAT THE FORESTRY INTERESTS OF  
CANADA GET BEHIND BLISTER-RUST CONTROL.

Dr. H. T. Gussow has sounded the clarion call to the forestry interests in Canada to save their white pines from the blister rust, in an article in the "Illustrated Canadian Forest and Outdoors" for September, 1930. This is entitled "Deadly Disease Attacks White Pine." He writes:

"\*\*\*\* I am certain that no interest has so far been taken in blister rust simply because there has been lacking - in Canada at least - a thorough appreciation of our white pine stands, and not until forest departments are prepared to carry on a wide educational campaign to prove the value of white pine to Canada, will people bother about control measures for blister rust. Is this one of the reasons why my warning in 1914 has been of no avail? Blister rust appearing on white pines of all ages and in very many localities at the present moment, will likely prove more convincing of the destructive nature of this rust than any other kind of publicity. There should immediately be organized field trips for foresters, lumber men and related interests to show them the actual damage done in valuable stands. One dead tree on one's own premises is more convincing than an acre of dying ones in an adjacent township. It is suggested that all forest services locate suitable plots for damage studies and organize parties and bring to the attention of all the potential damage now being done. \*\*\*\*.

"We seem to require in Canada above all an educational campaign towards a policy of sound forest management. \*\*\*\*.

"There is another interesting consideration that may lead pine owners to practise control measures more readily. In 1916, C. R. Pettis, New York State forester, stated in reviewing the general situation in the U.S.A.: 'We lost our chestnut timber through lack of aggressive action - we cannot afford to lose our white pine and we are not going to lose it.' Are we in Canada prepared to lose them?

"As a result of ten years' work the State forest departments have reached a point where future production of white pine timber in New England and New York is assured and the Lake States and Pennsylvania are now so awake to the situation that the prospects are very bright for white pine - the leading species in the rapidly developing forest management in these States.

"Canada has vastly more white pine areas than the U.S.A. - but if Canadian owners fail to protect their heritage, the pine producers in the U.S.A. will profit from the enhanced stumpage values of the future - and this is bound to result if Canada's white pine dies out. \*\*\*\*."

PRELIMINARY REPORT OF CONTROL WORK IN MASSACHUSETTS  
FIELD SEASON 1930.

Although time has not been sufficient to prepare final reports of the control work for the 1930 season, the following tentative figures may be of interest at this time:

Regular Control Work:

No. of individual cooperators.....	990
No. of acres examined for Ribes.....	145,400
No. of wild Ribes uprooted.....	1,027,750
No. of cultivated Ribes destroyed.....	5,800
Expended by cooperators.....	\$ 5,900.00

Special Control Work - Black Currant Eradication

No. of towns canvassed.....	66
No. of individual cooperators.....	825
No. of patches located.....	1,156
No. of black currants destroyed.....	12,200
Expended by cooperators.....	\$ 700.00

Special Control Work - Nursery Sanitation

Ribes sanitation work was performed around one additional commercial nursery and previous control work was rechecked in the environs of two other nurseries.

These tentative figures for the 1930 field season indicate a reduction in the amount of control work performed as compared with 1929. It should be noted, however, that during 1930 there was a reduction in supervising personnel, and a curtailment of field work in one district as a result. In addition, the season in one other district was devoted entirely to black-currant location and eradication work, with a resulting falling off in the figures for regular control work.

October 1, 1930.

C. C. Perry, Mass.

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DISTRICT FORESTERS' CONFERENCE HELD AT RENOVO, PA.

A conference of district foresters and assistant foresters of the Department of Forests and Waters was held at Renovo, Pa., on September 5 and 6. The first day was devoted largely to inspection tours.

On the following day occurred the unveiling exercises of the memorial marker commemorating the first purchase of the State Forest land by the Commonwealth. This purchase was consummated on September 6, 1900. About 300 were present at the commemorative exercises, which included addresses by Secretary Charles E. Dorworth, and State Forester Joseph S. Illick. Several members of the State Forest Commission also gave addresses.

R. P. Fatzinger, Pa.



SEPTEMBER IN MASSACHUSETTS

Control work during September in Massachusetts involved the clearing up of odd jobs such as the removal of cultivated Ribes from delinquent owners, and the completion of black currant eradication in towns canvassed during the season. Several displays were placed during the month. These displays were at the Eastern States Exposition in Springfield; at the Agricultural Fair in Gt. Barrington; at the Tri-County Agricultural Fair in Northampton, and at the Tercentenary Exposition of State Activities at the Commonwealth Armory in Boston. Field work for the season was concluded on Saturday, September 27.

C. C. Perry, Mass.

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COOPERATION?

Mr. B. in the town of Oakland does not believe in blister-rust control, the following conversation will bear it out, and he positively refuses to be educated. But he did do his part of the work.

Agent - "Good evening, Mr. B."

Mr. B. - "Huh! Who be you?"

Agent - "Agent of the Maine State Forest Service."

Mr. B. - "Well, what do you want?"

Agent - "Your area of young pine located ----- etc."

Mr. B. - "So you are another of those fellers. I don't believe any such tommyrot. The idea that a gooseberry leaf or currant leaf can kill a pine."

Agent - "Mr. B., if you could spare a little of your time I would like to show you some of the damage this disease is doing in your town."

Mr. B. - "Say, young feller, it is just like the brown-tail and gypsy (moths). A lot of whoop and howl, but in three or four years it will be all over. No, sir, I will never believe in it."

Agent - "Then if I took you and showed you the actual damage you would not believe it?"

Mr. B. - "No sir."

Agent - "Then our time would be wasted."

Mr. B. - "Yes, sir. Say, young feller, do you know what I am doing with that young pine of mine, and am going to do as fast as I can?"

Agent - "No."

Mr. B. - "Well, I have cut them down for a day with a bush scythe already and I am going to cut every d- pine on my place. I wish they were all dead. They are only good to bring such pests as you and your men around to bother me."

Agent (softly) - "Mr. B., will you please tell me what the difference is between cutting all your pine down or pulling up by the roots the gooseberry and currant bushes? They both take time, and what about your neighbors pine? After you cut yours the bushes will still be there and they will necessarily have to be removed."

Mr. B. (loudly and fluently) - " \*\*\*!!!!\* all State, and Government men in general, pine, taxes, fool jobs, etc. Well, I suppose to keep from being pestered to death - and if I have got to I can. Send your foreman."

(Exit Agent to the next one. Such is the life of a Ribes hound.)

J. M. White, Maine.

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#### TWO BELATED SCHOOL RETURNS FROM MICHIGAN

##### First Infection Found in Alcona County.

I have just received two belated reports from last year's school survey; one from Muskegon County and one from Alcona County. Alcona County report contained three currant leaves, two red and one black. The cultivated black currant leaf showed considerable blister-rust infection. This is the first blister rust that has ever been found in Alcona County. The teacher sending in the report was Mr. L. W. Dellar, Harrisville.

The report from Muskegon County contained wild blackberry leaves infected with orange rust. No Ribes were included.

Sept. 30, 1930.

David J. Stouffer, Mich.

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#### 12,000,000-YEAR-OLD LOG FOUND

A piece of a 7-foot tree estimated to be 12,000,000 years old, which was found 150 feet below the bed of the Yakima River in Washington, has been identified as a species of Sequoia. This ancient wood was taken from a log encountered when a United States Reclamation Service tunnel was being driven under the river, and was in solid basalt believed to have been poured out of one of the Columbia Plateau volcanoes 12,000,000 years ago.



NEW PINE INFECTION UNCOVERED IN WISCONSIN

That currants and gooseberries are "poor company" for white pine has again been proven by the fact that 4 cultivated red currants were responsible for a serious infection just found near Stanley, Wisconsin, in Clark County; the first pine infection found in that county.

This infection was found on a windbreak of 16 pine. The pine, which are probably 25 feet high and 5 inches D.B.H., are all in a row, and paralleling the pine were the 4 red currants. Live branches extend almost to the ground. There were 14 branch cankers on 1 tree alone. One branch which is probably an inch in diameter is already dead. Most of the cankers are in a green state. I have already cut away several in order to show the owner how to remove them and thus keep the disease from the trunk. He plans to continue doing this as long as branch cankers appear.

The result of the discovery of this infection is - 4 currant bushes hanging on a fence, upside down.

\* \* \*

I might mention that I also found a new infection in Eau Claire County, but only on Ribes. The pine showed no infection as yet.

T. F. Kouba, Wis.

Edit:- It may be of interest to know that the only previous blister-rust infections found in Clark County were discovered in 1918 by Thompson and Hedgecock. Thompson found blister rust on 6 Ribes cynosbati in Grant township near Neillsville, and Hedgecock found the rust on several cynosbati in Pine Valley township near Neillsville. All of the bushes found infected were destroyed. A note on the inspection cards states that "This section is favorable for the development of the disease because of the abundance of pine and Ribes found throughout."

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SUMMARY OF RIBES ERADICATION IN MINNESOTA IN 1930

Total area upon which Ribes were eradicated.....	1346 acres.
Total number of Ribes pulled.....	48,000
Total cost.....	\$687.00
Average cost per acre.....	\$ 0.5102
Individual cooperators.....	32
Nursery sanitation jobs.....	2

L. B. Ritter, Minn.

COMMUNITY GATHERING AT COPPERMINE CAMP  
IN THE WHITE MOUNTAINS

Kane Speaks on Blister Rust

A community gathering was held at the Coppermine Camp at Franconia, New Hampshire, Sunday, September 28, which was sponsored by Mr. Robert P. Peckett of Pecketts on Sugar Hill, one of the pioneers in the winter sports game in the White Mountains.

One hundred and twenty-five representative men from Franconia, Littleton, Lisbon, Bethlehem, Whitefield and Wells River were guests of Mr. Peckett at a bountiful buffet luncheon and listened to a very interesting and informing program arranged by the host. \*\*\*.

Warren Hale of the State Forestry Department, Concord, speaking on the "New Hampshire State Reservations and Their Use," stated that the Monadnock reservation was in constant use even in the winter time. In fact, the frequent winter parties which have used the reservation in the past few seasons give high hopes that New Hampshire will become more and more a recreational center in the winter as well as in other seasons. \*\*\*.

Philip W. Ayres of Franconia, president of the Society for Protection of New Hampshire Forests, outlined the history of the society and told of its future program. He said that in all there were 965,000 acres in the White Mountain National Forest reservation. He strongly urged the reduction of the State tax on standing timber. Thomas Kane of Woodsville, speaking on the subject, "The Pine Blister Rust in New Hampshire" gave a brief but coherent description of pine blister rust; how it originates and how it propagates and how it kills pine trees. He told of the work that was being done to eradicate it. \*\*\*.

The Grafton County Farm Agent, Ross W. Wilson of Woodsville, outlined what was being done for the farmers and of the uphill battle which they have had to face because of the high taxes on standing timber, making their wood lot a burden instead of a source of income. \*\*\*.

(Extract from "The Littleton (N. H.) Courier, October 2, 1930.)

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THINK IT OVER!

5. "If you work for a man, work for him, don't knock."
6. "Do not lean on anyone and let no one lean on you."
7. "Have faith in your ability to win. Certainty of victory wins battles before they are fought."
8. "Get it started and everybody takes it, like an epidemic."



REFORESTATION IN NEW YORK ON THE INCREASE

New York is planning great increase in its reforestation program writes Nelson C. Brown in an article entitled "New York Looks Ahead" in Journal of Forestry for May, 1930.

Two nurseries have already been added to the three that have been in existence for some years and it is proposed to extend this number until the annual output can be expanded from the present 30,000,000 trees to around 150,000,000 to 200,000,000 trees or as many as may be necessary to take care of the enlarged planting program.

At the present rate of planting about 25,000,000 to 30,000,000 trees per year, it is probable that it would require 200 years to take care of the idle land problem of the State. In the meantime, this acreage is increasing and the people of the State feel that a program of planting that requires 200 years to consummate is entirely too long.

It is proposed to acquire land outside the Adirondack and Catskill parks for the reforesting of the same, and the protection and management of the forests thereon.

This is in the form of a constitutional amendment passed by the legislature of 1930 and which must also be passed by the legislature of 1931 and then submitted for approval to the electorate of the State in 1931.

Concurrently with the State-wide reforestation program, the legislature of 1929 passed the so-called County Reforestation Act. This provides for State aid or subsidy to each county on a dollar for dollar basis up to a maximum of \$5000. Any plans submitted by the county authorities to take advantage of this State aid must receive the approval of the Conservation Commissioner and be submitted prior to January 1 of each year. This law has been in effect approximately one year and will continue indefinitely. Twenty counties took advantage of it during 1929 and submitted plans together with certification of county appropriations to the Conservation Commissioner prior to January 1, 1930.

Several counties have already appointed county foresters. The county forest is a new and promising field for the extension of forestry in this country.

Edit: Any increase in reforestation in New York is of vital interest to us in our control work.

## WHEAT PLANT STOMATA PLAY IMPORTANT PART IN STEM RUST INFECTION

J. Sydney Cates writes at length under the title "Wheats That Sleep Late" in The Country Gentleman for September, recounting in his article the details of a discovery that gives hope of conquering black stem rust. He says in part: "Truly there are more things in this world than ever dreamed of in Horatio's or any other philosophy. The latest is that wheats that sleep late avoid black stem rust--the great nemesis of grain farming in this country ...And an odd thing again--or maybe it is not so odd--is that this new discovery about wheat has been made by a slip of a girl, Miss Helen Hart, a co-ed at the University of Minnesota. Miss Hart, who is a student in the graduate school, working for her doctorate, attacked a problem on which millions of dollars had already been spent. Hundreds of highly trained plant pathologists in this and other lands have wrestled with stem rust for a generation. It took a brave lass to trail such workers. In the majority of the strains of wheat in the experimental plantings Miss Hart found that the stomata opened within a half hour after the first rays of the morning sun struck the plants. Some strains blinked open within five minutes of the time the sun came over the horizon. Still other strains-- and this is the critical point of the discovery--kept their little leaf apertures tightly shut until they had been warmed by one and one-half hours of sunshine. And these latter were the same strains of wheat which, when inoculated under indoor laboratory conditions, showed no resistance at all to rust, and which, under field conditions, did not often suffer very much damage. These wheats had escaped by the simple process of keeping their leaf apertures closed until the morning sun had dispelled the dew and thus dried up and destroyed the little threads of growth coming from the spores which had germinated in this moisture the night before. They slept late, and thus avoided the enemy which, coming in the night, lingered only during the morning dew..."

Miss Hart published the results of her work, referred to above, on the "Relation of Stomatal Behavior to Stem-Rust Resistance in Wheat" in the Journal of Agricultural Research for December 15, 1929. The Summary of her article is worth reproducing here.

### SUMMARY

Two kinds of resistance to stem rust have been demonstrated previously: Physiological resistance and morphological resistance. To these may be added a third kind, termed "functional resistance."

Some varieties of wheat are resistant to stem rust in the field because of the behavior of their stomata. Such varieties may be susceptible to stem rust in the seedling stages of their development.

Stomatal movements of wheats follow a definite daily rhythm. The stomata open gradually after sunrise, remain open for varying lengths of time, close gradually during the afternoon, and remain closed all night. The daily rhythm of stomatal movements differs considerably in different varieties of wheat. Stomata of some varieties open very soon after sunrise and usually remain open most of the day. Stomata of other varieties open very slowly and remain open



only a short time. There also are varieties with an intermediate type of stomatal behavior.

Stomata of the younger and more succulent plant parts open sooner and remain open longer than stomata on older or less succulent parts. Stomata on the young wheat leaves open sooner than most of the stomata on the older leaves, on the sheath, and on the peduncle of the plant. The differences are not great but are appreciable under ordinary conditions.

The critical period for stem-rust infection is in the early morning immediately after sunrise and while the plants are heavy with dew. The fungus easily enters its host if the stomata are open during most of the critical period, but if they are closed during that time the fungus is excluded. There are great differences in the stomatal behavior of some wheat varieties during this critical period.

Direct sunlight seems to be the most important stimulus for the opening of stomata of cereals.

Artificial light, excess of moisture, and excess of moisture and temperature combined did not prolong the period of openness for stomata of cereals in the greenhouse.

From inoculation and histological studies it appears that the stem-rust germ tubes generally, and probably always, enter the host only when the stomata are open. The fungus does not seem to force its way through closed stomata.

A variety of wheat may appear truly resistant to stem rust if the behavior of its stomata is such that most of the inoculum is excluded and rendered ineffective.

There is a correlation between stomatal behavior and the resistance of certain varieties of wheat to stem rust in the field at University Farm, St. Paul. Stomata of the highly susceptible varieties, Little Club, Baart (Early Baart), Quality, and Reward, open soon after sunrise and remain open most of the day. Stomata of some slightly less susceptible varieties, Marquis, Ruby, Haynes Bluestem, Arnautka and Mindum, open a little more slowly after sunrise, but they too remain open most of the day. In the varieties which are highly resistant in the field, Hope, Webster, Acme, and Velvet Don, the stomata open very slowly and close again relatively early in the day. Varieties which are moderately resistant in the field, Kota and Kubanka, have an intermediate type of stomatal behavior.

ABANDONED FARM AREAS IN NEW YORK \*

According to the United States Census, the area of land in farms in New York in 1880 was 23,780,754 acres, whereas the amount of land in farms in 1925 was 19,269,926. More than 4,500,000 acres disappeared from farms in forty-five years.

For the thirty-year period from 1880 to 1910, an average of 60,000 acres a year was abandoned; from 1910 to 1920, 140,000 acres a year; and during the years 1920 to 1925, 270,000 acres a year. On the average, during the forty-five-year period there was a reduction in farm land of 100,000 acres a year. Even in the period of rising prices, a large amount of land was abandoned. Idle land that is part of an occupied farm is not included in the abandoned area. In the abandoned-farm areas, many farms are still occupied but are little used. \*\*\*.

Why The Land Was Abandoned

New York State was settled with great rapidity soon after the American Revolution. Many people were anxious to obtain land, and they settled practically all of the land regardless of its quality. Some income was obtained from the sale of timber, while the land was being cleared.

Crop yields in these poor areas were never very good. This is verified by census returns and by a comparison of the size of barns and corncribs with those in more prosperous districts. The burning of the forest provided a little lime and potash for the surface soil, and the decaying tree roots left the soil in a friable condition so that it was somewhat easier to produce crops for a few years after clearing than at the present time.

Abandonment in most of the poor areas began almost as soon as settlement was completed. The abandonment of this land was due primarily to the natural characteristics of the soil. Changed economic conditions have contributed to the process.

When this land was settled, there was no transportation to the Middle West. Population was dense on the Atlantic seaboard, and the pressure of the population on the food supply was much greater than at present. Under those conditions much land was cleared and farmed which should have been left in forest. Later the opening of the West made available large areas of fertile level land with which the poor land of these areas could not compete in food production.

Another reason for the shift of food production from poor to good land is that poor land is usually not well adapted to the use of grain binders, potato planters, tractors, and other labor-saving machinery.

\* Cornell University Agricultural Experiment Station Bulletin 490, July, 1929, by Lawrence M. Vaughan. 285 pages.



At the time when this land was settled, commercial fertilizers and tile drains were unknown and lime was not available for agricultural use. Much of the best level land required drainage before it could be used, but with drainage it became very superior land. On most of the abandoned land it would be much more expensive to lay tile drains than it is on good land, and the drains would not work so well even if they were laid.

Formerly, accessibility to market was not important, as most of the products were consumed at home. Under present conditions, however, production for sale is characteristic of the entire economic organization, and the high cost of hauling to and from market adds materially to the cost of farming this land.

Every step in progress makes it relatively more advantageous to obtain the food supply by the more intensive use of good land than by the use of inferior land. \*\*\*.

(To be continued in the November issue.)

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P U B L I C A T I O N S
-------------------------

Blister Rust

Wyckoff, S. N. "Blister-Rust Control in the Inland Empire," in the Timberman, June, 1930, Vol. 31, No. 8, p. 162-8.

Clepper, Henry E. "White Pine Blister Rust in Pennsylvania," Pa. Dept. of Forests and Waters, Research Circular 2. 1930

White Pine Weevil

Mott, Paul B. "An Annotated Bibliography of the White Pine Weevil, Pissodes strobi (Peck), for White Pine Blister Rust Workers and Others," New Jersey Dept. of Agric. Circular #177. April 1930

Shaw, T. Edward "Practical Control of the White Pine Weevil" in Forest Leaves, June, 1930.

A M O N G O U R S E L V E S

Mr. Henry Dorr, Jr., Blister-Rust Agent in New York, resigned September 15, to become a Graduate Assistant at the University of Michigan.

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Messrs. F. J. Baker, R. E. Wheeler and Arthur J. Lambert were transferred on October 1st to Plant Quarantine and Control Administration.

- - -

Mr. Gerneaux Hartley, Junior Clerk in this Office, resigned September 30th to resume his studies at Georgetown University.

- - -

Mr. Joshua F. Thompson was appointed Assistant Messenger in the Washington Office on October 1.

- - -

Mrs. Agnes Shields is visiting with relatives and friends in Boston, New York and Philadelphia.

- - -

Mr. John R. Curry, Asst. Forester in charge of fire control in the Maryland State Department of Forestry resigned as Collaborator of this Office on September 30. Mr. Curry made an extended trip last year in western Maryland for this Office scouting for the blister rust. No rust, however, was found at that time, nor has any been found since. Mr. Curry leaves for California to accept an appointment as Associate Silviculturist of the U. S. Forest Service at the California Forest Experiment Station at Berkeley. It is not unlikely that he will come in touch with the Western Office of Blister-Rust Control.

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Many of the blister-rust men may remember genial Eddie Holland, Clerk in the Washington Office in 1927 and 1928, who had to leave us for Saranac Lake, New York, for health reasons. A letter from Seattle, Washington, dated September 20, states that he is back on his feet again, entirely well, and is working with a building supply house in Seattle. Good luck, Eddie, from us all.

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Mr. P. H. Merrill, Commissioner of Forestry of Vermont, one of our collaborators, wrote that he was leaving on the 17th of September for Los Angeles and Portland to be gone for three weeks or more.

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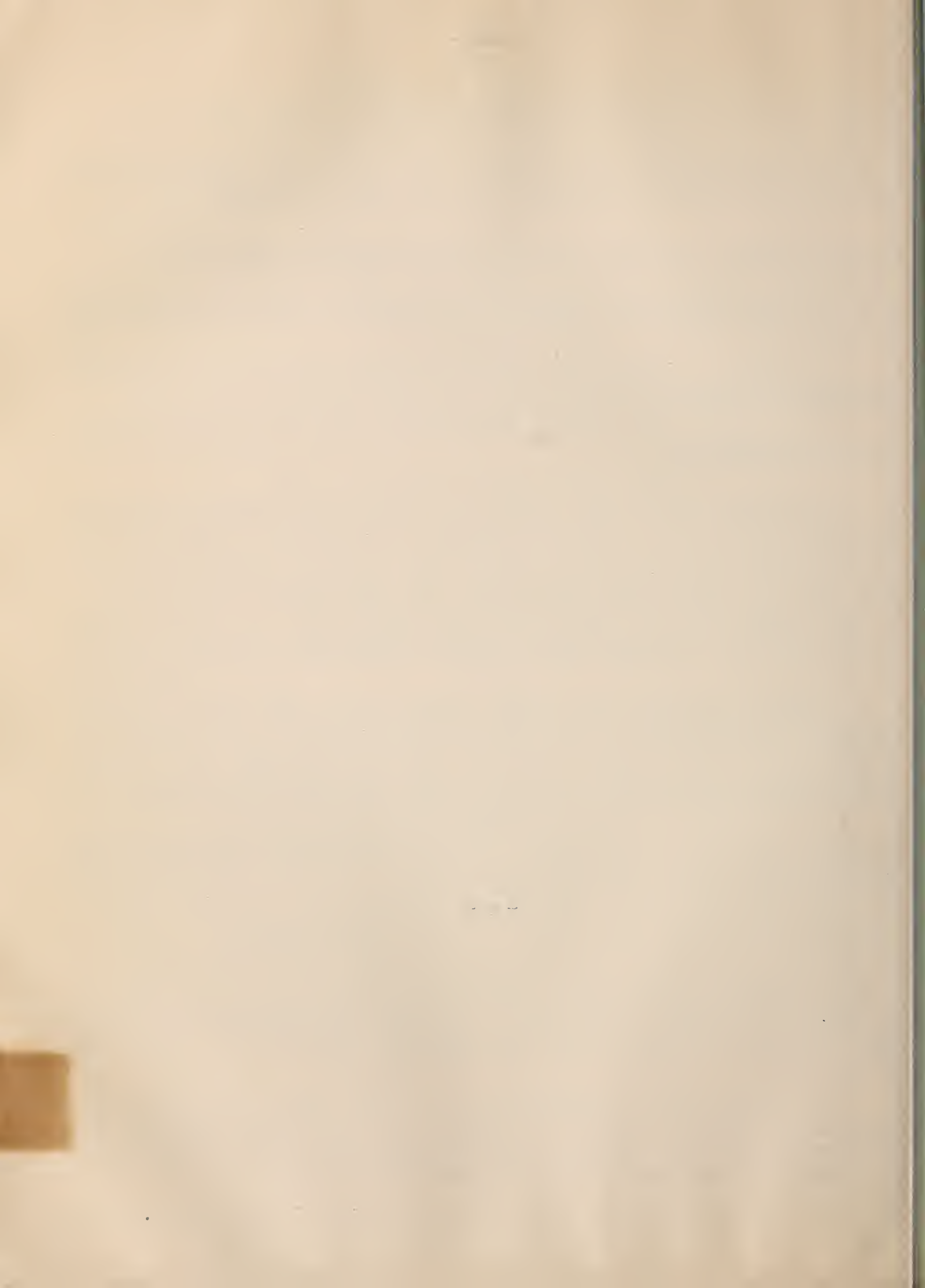
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It is with extreme regret that we learn of the death of Dr. Nathaniel O. Howard of Providence, Rhode Island, a member of the Office of Forest Pathology. He died at the Rhode Island State Hospital on September 14. He was only 51 years old, the same age at which Dr. Pennington died.

Dr. Howard will be remembered as one of the hosts at the 14th Annual Blister-Rust Conference held at Providence and at the Goddard Memorial Park in November, 1928. Dr. Howard at that time spoke about an interesting disease on Douglas fir, specimens of which he showed us in the Park.

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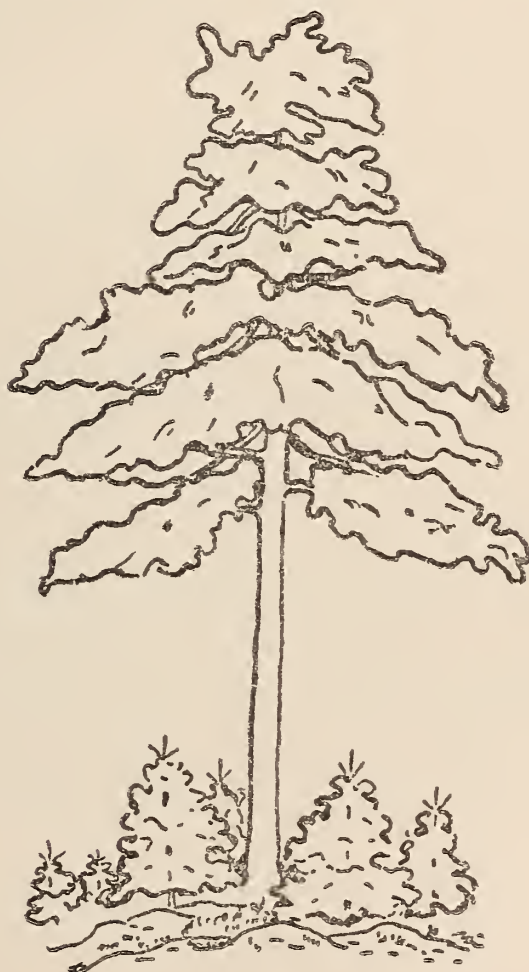








# THE BLISTER RUST NEWS



November, 1930.

Volume XIV

Number 11

U.S. DEPARTMENT of AGRICULTURE  
BUREAU of PLANT INDUSTRY  
OFFICE of BLISTER RUST CONTROL





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UNITED STATES DEPARTMENT OF AGRICULTURE  
BUREAU OF PLANT INDUSTRY  
WASHINGTON, D. C.

T H E B L I S T E R R U S T N E W S

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and Cooperating States

Vol. 14, No. 11

November, 1930.

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COMMENTS ON THE LITTLETON CONFERENCE

In returning from the Annual Blister-Rust Control Conference, some of the agents discussed the benefits derived, and the attitude towards the meetings.

Since Mr. Filler and one or two others have brought up the question of how effective these meetings are and whether they should be continued, I think the viewpoint of the agents should be understood. As for myself, I feel that the Conference is necessary, especially from the standpoint of its being a continuation school of education for the agents. The trip about the pine infection areas and the Pratt Farm alone were of great interest and value to me. The Conference acts as a clearing house for ideas, and gives one new ideas based on the experiences of others. It helps to develop a more national perspective instead of a narrow local one. It is a morale builder in that one feels more a part of an extensive organization working for a common good.

I have only one comment to make in the support of the suggestion made by others, and that is, that in the future more time for discussion be given by grouping people having a common interest in various phases of the work for part of the Conference. Mr. Filler, Mr. Newman, and their associates certainly planned a worthwhile conference and they are to be thanked and congratulated.

A. W. Hurford, R. I.



A HEAVY BLISTER-RUST INFECTION FOUND IN DOUGLAS COUNTY, WISCONSIN

Another bad pine infection has been discovered. This one is near Hawthorne, in Douglas County, the extreme northwestern county of the State. This is the first time as far as we know that infection has been found in this county. The nearest Wisconsin infectign area is near Grantsburg, at least 50 miles away, but a Minnesota infection is somewhat nearer.

J. R. Jacobson, a summer blister-rust scout, but at this time of year a Superior, Wisconsin, school superintendent, reported the infection. The State Leader examined the area and found the following: 39 Ribes vulgare with 11 white pine growing about 100 feet to the west and 17 pine approximately 125 feet to the southeast. These trees are 18 years old and show an average growth. Forty odd R. nigrum that had been intermixed with the vulgare, were removed 3 years ago. The 4-year-old canker predominates, but they range up to 7 years. All of the 28 trees show infection; not one or two cankers, but dozens of them. A count was taken of one of the trees, probably the one most heavily infected, and 474 branch cankers were recorded. Of the 28 trees, the owner has been asked to cut and burn 15 this winter. There is considerable white pine in Douglas County. Since the infection center is small the spread of the rust may be retarded somewhat by removing the heavily infected trees along with the Ribes.

T. F. Kouba, Wisconsin.

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FAVORABLE COMMENTS ON THE CONFERENCE

It is undoubtedly safe to say that all of the field agents look forward each year to the conference. Each year we all learn many new things that help from these "yearly-get-togethers". Many times answers to our own problems are obtained from those in charge. Many of these questions or problems are perhaps of no interest to others; therefore they are not asked before indoor meetings but at some time when the officials in charge are alone.

The 1930 conference was a great success from all standpoints. The Waterford, Vermont, and O. M. Pratt areas alone were well worth the time and expense of the conference.

Those directly responsible for the program should be highly congratulated. Messrs. Filler, Stimson, Newman and assistants certainly mapped out a fine program and showed much time, thought and work expended. And if I may be allowed to say so, I am for conferences each year and if possible longer ones.

I am sure each and every one of us field agents all appreciate this privilege by the Department, extended by Dr. William A. Taylor, Chief of the Bureau, Mr. Detwiler, Dr. J. F. Martin, and others of the Washington personnel. Mr. Detwiler's presence was missed very much by all.

J. MacG. White, Me.



### CONFERENCE REMINISCENCES

The writer, having attended only a few annual blister-rust conferences, is probably not entitled to pass judgement on how our most recent one compared in educational and other features with those of former years. To say the least, it was well planned and very interesting.

The meeting started off with an exceptionally good program. The evening lectures of October 15th were particularly entertaining and instructive. The following day the field trip and indoor meeting were not less interesting.

The condition at Waterford certainly pictures a blister-rust situation that but few of us have heretofore had an opportunity to see. In fact, but few realized that such a condition could exist. It is true that citations picturing that condition can be found in blister-rust literature, but a visit to the area is conclusive proof that literary descriptions, regardless of how clearly they may be written, leave an entirely different impression than one gathers through personal observation.

Unfortunately, the scenic features of the trip were somewhat marred by weather conditions. However, the opportunity to get short glimpses of the Old Man of the Mountain, Indian Head, and the trip up the Flume were ample to convince even those who might be pessimistically inclined to realize that the White Mountain section of New Hampshire is not lacking in interesting scenery.

The final feature was an ideal setting. It taught a lesson in forestry management that alone would warrant traveling a long distance to see. Forestry, as practiced by Mr. Pratt, is rare - at least where it has been so forcibly brought to the attention of the blister-rust organization. One thing is certain; those, who for the first time followed Mr. Pratt over the different plots took away with them a profitable lesson on the effective management of a white-pine forest.

The blister-rust organization is certainly indebted to Mr. Filler and the few others who contributed their time and suggestions toward working out such an interesting program.

I believe Mr. Filler advised the conferees that in answer to his circular letter asking for suggestions that would help to prepare an interesting program, only six replies were received. New York was one of the sections that failed to answer that letter. Such neglect was properly interpreted by Mr. Filler's remark that, at least, through courtesy we should have replied. The majority of the organization, therefore, it seems are deeply indebted to the few who were interested in our behalf. It does seem that if we expect to encourage future meetings, the entire organization must lend a helping hand in preparing the program. As a suggestion that might be helpful I have this to offer: Let all of us, both agents and leaders, from time to time make pencil notes on important questions and topics that we would like to discuss in open or personally with some one qualified to discuss our particular problem. If each one clearly expresses in writing the problems he is particularly interested in and such information is sent



in advance to Mr. Filler or who ever is in charge of program arrangements, it will facilitate placing the conferees in touch with the one best qualified to discuss that particular problem. In brief, let us pool our ideas, wants, and suggestions; out of the mass there will no doubt evolve a most interesting "get-together".

If a goodly supply of suggestions or topics, that could be more appropriately discussed in person rather than at an open meeting, is received from us, no doubt arrangements to set aside a certain part of a day for such purpose could be made. I do believe, however, that the latter can only be brought about through advance information that will place before Dr. Taylor and other officials of the Bureau of Plant Industry sufficient evidence to warrant extending the time of the conference.

H. L. McIntyre, New York.

Comment:-This is a good suggestion. I hope the agents will follow it and list the problems encountered during the year which they want discussed at the next conference. They should take the initiative in this matter.

J. F. Martin.

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#### THE FITCH LOT AT LITTLETON, NEW HAMPSHIRE

##### Study Plot Shows Blister-Rust Damage.

The Fitch lot affords a good example of blister-rust damage to young and medium aged pines growing more or less in clumps in an old pasture. The oldest canker in this tract originated on wood of 1910 growth. Thus, the rust has been working here for twenty years, interrupted only by the initial application of protective measures in 1918, the first year any systematic control work was performed in this region. Many skunk currants and large gooseberries were pulled in this tract, particularly along the fence rows and on the rocky outcrops of the side hill.

A half acre plot laid out under average conditions shows that 42 per cent of the 405 pines in this unit were infected. Over 67 percent of the 171 diseased trees have stem cankers and 44 percent of the infected pines have been killed by the rust. The amount of infection would doubtless have been much greater, but for the timely eradication of Ribes in 1918. This early control work, although not as efficiently performed as similar work in later years, prevented the severe infection wave of 1919 from causing damage in this area. In fact, only 10 cankers originated in this plot in 1919 and 8 in 1920 compared with 33 in 1918. However, in nearby unprotected areas more infection took place in 1919 than in all previous years combined.

After 1920, the amount of new infection in the study plot gradually increased as a result of Ribes regrowth. By 1930, this new infection repre-

sented 24 percent of the total number of diseased trees in the plot. This condition demonstrates the need for timely reeradication work in order to effectively maintain control. In this northern region ,where wild Ribes are abundant and climatic conditions especially favorable for infection, a re-examination of control areas is apparently essential within a period of about five years after the initial Ribes eradication work.

(Extract from the 1930 Blister-Rust Control Conference Program.)

Edit: This lot was visited by the blister-rust control agents at their conference in October. The above is an example of a good descriptive write-up of a study plot and the points desirable to study in making such a plot.

### INVENTORY

Now that the eradication season and the conference are over, let's settle down to business once more. Every good business office takes an inventory each year to see what they have left over on the shelves and what they need to purchase for the coming year. It ought to be good business for each of us to take an inventory of our work. What did we accomplish in our respective fields during the year; what still needs to be done in our districts; how are we going to get it done during 1931? Are our maps and records up-to-date; are the pine areas and control areas indicated on the maps; do they tie in with the eradication records, should any of the areas be inspected for reeradication, etc.? Such a review of work should be helpful. It will show you what is left on the shelves and enable you to clear up odds and ends and work out plans for the future. These questions will probably be asked each agent this winter: The agents may be asked to show their control maps and records, to discuss the status of the work in their districts and to exhibit their plans for the coming season. If you cannot do this, an inventory will help you to get things in shape so that you can (1) discuss the status of control in your district intelligently, concisely and thoroughly and (2) back up your discussion with concrete records and maps. These will show how you are handling the work and whether you have a thorough grasp of the situation in your district.

J. F. Martin.

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### BLACK CURRANT ERADICATION IN RHODE ISLAND

A small crew employed by the Rhode Island Department of Agriculture has scouted in seventeen townships of the State this year as part of the State's European black-currant eradication project. Over 30,000 properties have been scouted for these bushes and 4,069 European black currants located in 369 plantations were destroyed. Practically all of these bushes when in leaf were infected with white-pine blister rust.

Harry R. Lewis, R. I.



THE WATERFORD, VERMONT AREA

This area at Waterford, Vermont, presents a most striking example of blister-rust damage to scattered pines in a pasture type and to merchantable-sized trees in a well stocked mixed stand. Infection studies have been in progress in this tract since 1924. Apparently, most of the infection was caused by cultivated black currants. These bushes were planted about 1909 at the upper Lee Farm about 1,700 feet northwest of the merchantable stand. The patch was increased by cuttings and numbered about eighty large bushes when destroyed in 1917. Scattered throughout the pasture, especially in the moist sites were Ribes hirtellum and glandulosum. At the time of their eradication in 1925, these wild Ribes averaged per acre, 10 bushes and 195 feet of live stem. The skunk currants were restricted to six patches, but contained 55 percent of the total amount of live stem. No wild Ribes were found in the merchantable stand, but scattered bushes occurred nearby, particularly in the adjacent pasture.

In the pasture type, a study of pine infection was made during 1924 in 21.5 acres. At that time, 38 per cent of the 2,178 pines in this type were infected and over 26 percent of the trees had stem cankers. The oldest canker occurred on wood of 1908 origin. However, it probably originated in 1909 on two year old needles.

A study of blister-rust damage was begun during 1925 in a three acre unit of the merchantable stand. This plot contains a mixed growth of pine and spruce about sixty years old. Over three-fourths of the pines range from 50 to 80 feet in height. At the time of the original examination in 1925, 78 percent of the 368 pines were infected, 60 percent had stem cankers and 9 percent had been killed by the rust. A reexamination of these trees in 1930 showed that 66 percent of the pines had stem cankers and 25 percent had died from the disease. Considering only the 284 infected pines, 85 percent had stem cankers in 1930 and 32 percent were dead. Pines of all size-classes have been fatally attacked, especially the larger trees; however, the smaller infected pines die more quickly. The status of infection on each pine in this plot has been indicated by marking the trees with white paint.

Cross - branch canker only

Single band - infected with stem canker (tree alive)

Double band - pine killed by blister rust since 1925

Triple band - pine dead from blister rust in 1925

In order to determine the effectiveness of the 1925 control work, a pine infection study was made during 1930 in a half acre plot (marked by white string) in the pasture type. The unit was laid out in a site between two swamps where Ribes were present in 1925. The plot contains 205 pines, all but 11 of them being under 16 feet in height. In fact, 110 of the trees are 3 feet or less in height and 71 of these were grouped in the one-foot class.

Forty-two of the 205 pines in the plot became infected with 109 cankers prior to the control work. After 1925, only six other trees or 2.9 percent of the total number became diseased. Also, only three pines which were diseased prior to 1925 became reinfected at a later date. This small amount of new infection totaling only 11 cankers on nine trees shows that the application of control measures in 1925 has effectively checked the spread of the disease in a situation where Ribes were difficult to eradicate.

(Extract from the 1930 Blister-Rust Control Conference Program)

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YELLOW FLOWERING CURRANT SPROUTING FROM UNDERGROUND STEMS IN NEW YORK.

My personal impression has always been, from talking with various parties, that Ribes odoratum is capable of producing shoots directly from the roots, although I have never actually seen this in the life. Last summer I did examine a spot which Agent Holcomb of this State showed me, in the town of Peru, Clinton County, where portions of a Ribes odoratum had been left in the ground and was sending up shoots. This underground portion was buried to a depth of six or eight inches, and I supposed at that time that I had found a case such as mentioned above, but a further examination of the cross section indicated that it was again a case of an underground stem.

E. W. Littlefield, N. Y.

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MORE ABOUT THE DISPOSAL OF UPROOTED RIBES BUSHES

I have been reading in the Blister Rust News recently about the different types of vegetative growth from stem and root remains and it has recalled to my mind one instance of Upper Priest River in extreme northwestern Idaho in 1924 and 1925.

A small area of four acres which was well vegetated with Ribes lacustre was eradicated in August of 1924. The area was not again visited until the first week of July, 1925, at which time one large bush of R. lacustre which had been placed upon a large log, the top of which was at least four feet from the ground and which bush had not moved in the meantime (the lowest portion of the bush was at least three feet from the ground and no contact except with the bark of this log was made), this bush was in full leaf. The leaves were of full size, of rather succulent character and of course of a rather light green shade. We considered it unfortunate at the time that we had no camera with us to photograph this phenomenon.

W. A. Rockie, in Soil Erosion Work,  
Pullman, Washington.



COMMENTS ON THE SPROUTING OF THE YELLOW FLOWERING  
CURRANT, RIBES ODORATUM.

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Agent White's experience with persisting root or root-like stem sprouts of Ribes odoratum as reported in the October issue of the NEWS is interesting. My first contact with this species of Ribes was in the spring of 1922 when, as one of the newly appointed blister-rust control agents, I was endeavoring to "get a line" on my job before taking on my quota of State foremen.

The first bush encountered was a large one about 6 feet high and 8 feet across the top. It was growing in a good, deep, loamy soil in a front lawn. In addition to the parent plant I found numerous small plants which had apparently developed from roots or stem-runners spread out in all directions from the central crown. On removing the main stem I found a wonderfully developed root system, some tap-roots going straight down and others at varying depths with many laterals spreading out in all directions and occasionally coming to the surface to produce new leaf-bearing stems. The roots were very brittle, making it almost impossible to get the whole system out in fairly large pieces. For that reason, I dug up and worked over the entire area in which the roots had apparently spread. I am positive that I did a good thorough job. Imagine my surprise, therefore, on checking the location about two months later to find more than a dozen new plants that had developed from fragments of broken roots, some of which were not over an inch in length.

Far be it from me to say whether what I refer to as roots are real roots or modified stems, but what I do know is that this variety of Ribes is a most prolific sprouter. All the other yellow flowering currants met with in my nine years experience in control work, have shown the same characteristics as this initial bush encountered in 1922. For this reason we consider the yellow flowering currant a bad actor and unless the locations where these bushes have been removed are checked frequently, there is danger that in a short while there may be more leaf-bearing stem produced than was present in the parent bush before it was disturbed. It is fortunate that this species of Ribes is strictly an ornamental and not an inhabitant of the usual Ribes sites in woodland, pasture, field or roadside.

Nov. 3.

Wm. T. Roop, Mass.

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Monsieur Rene Pomerleau of the Department des Terres et Forets, Province of Quebec, Canada, writes under date of October 29th, concerning the blister-rust control conference at Littleton:

"I wish to express to you, Dr. Martin and your office my gratitude for the highly interesting meeting and the cordial reception I have had at Littleton. I also send you the best regards of Mr. Piche and Tessier."



SLENDER GOOSEBERRY (RIBES GRACILE MICHX.) FOUND IN MICHIGAN

Several specimens of the somewhat rare gooseberry (Ribes gracile Michx.) were found by the writer on a scouting trip through Newaygo County, Michigan, on August 18, 1919, and have only been identified within the past month by the Botany Department of the Michigan State College.

Associate Professor H. T. Darlington of Michigan State College, writing under date of October 10, 1930, of these specimens collected by me at White Cloud in Newaygo County, and which were recently submitted to the College, said:

"I think you are correct in referring this specimen to Ribes gracile Michx., as described in Gray's Manual. Of course the specimen, not having flowers or fruit, is somewhat inadequate. However, so far as the foliage, twigs and spines are concerned, it checks up fairly well with four or five specimens of R. gracile in our herbarium. There seems to be some confusion in the manuals with reference to this species and R. missouriense Nutt. Gray's Manual makes this latter synonymous with R. gracile Michx., while in Britton and Brown's Flora of E.N.A., R. missouriense Nutt. is made synonymous with R. gracile Pursh."

This species, R. gracile Michx., for which it would pay the Michigan agents to be on the lookout, has, according to Britton's "Flora of the Northern States and Canada", slender, purplish branches, with slender, purple thorns 6 to 10 mm. in length (that is, 1/4 to 7/16 inches in length). The White Cloud specimens had long, slender, reddish, purplish thorns which averaged 12 mm. (1/2 inch) in length. The slender gooseberry has been located in Michigan from very few points. Beal in "Michigan Flora" (1903) locates this species at St. Josephs Island (in St. Marys River belonging to Ontario) and Sitting Rabbit (in the southern part of Mackinac County), and at Chandler's (a marsh in Clinton County).

The only other gooseberry in the Lake States with long, red thorns is Ribes missouriense Nutt. which is synonymous with R. gracile Pursh (not gracile Michx.), according to Coville in his monograph on Grossulariaceae in "North American Flora". The Missouri gooseberry (R. missouriense Nutt.) differs markedly from the slender gooseberry (R. gracile Michx.) in being a stocky bush with stout branches with gray or whitish bark and stout red thorns 10 to 15 mm. in length. The Missouri gooseberry is not mentioned by Beal as present in Michigan although it is possible that it is present in the State since its northern limit in eastern Wisconsin is directly across Lake Michigan from Manistee County.

Dr. F. V. Coville at Washington examined the White Cloud specimens on September 23, and said they resembled a southern species, Ribes curvatum Small. A comparison of the White Cloud, Michigan, specimens with those in the National herbarium shows a great similarity. However, the southern species according to Small in his "Flora of the South" has spines only 4 to 6 mm. long and leaf long and leaf blades 1 to 2 cm. in diameter, while in the White cloud specimens the average length of thorns is about 12 mm., and the leaf blades average 2½ - 4 cm. in width.



ALL IN A DAY'S WORK

Time: Any working day.

Place: Any small gasoline station.

Characters: Ribee Bill (A Blister-Rust Agent),  
Joe Pete (An illiterate gas vendor).

Ribee Bill drives up to the gas station in his Government-owned automobile.

Bill: "Give me five gallons of straight gas, please". Joe puts the gas in the tank.

Joe: "Dat'll be one dolla' twenty seex".

Bill: (Reaches in pocket takes out courtesy card) "Here's my courtesy card. You know the Government has a contract and all the gas is charged.

Joe: "I dunno anyt'ing about dat. You'll have to pay cash or I'll have to take de gas back."

Bill: "Oh, I see! (Reaches in another pocket) Well, I have a tax Exemption Card and a nice new book of Exemption Certificates here. You know we can't pay any State tax and you should take a certificate instead of the tax".

Joe: "I dunno. If I give you de gas without the tax will the State take these certificates?"

Bill: "Well, to tell you the truth, I can't say yes or no. They might and then again they might not. You know the States have not told us yet whether they will or will not."

Joe: "Well, I t'ink de're no good. You'll have to pay cash."

Bill: (Reaching in still another pocket) "All right. I'll have to ask you a few questions first. Do you pay the tax direct to the State? Do you pay it to the fellow who brings it in the tank wagon? Or who do you pay it to?"

Joe answers the questions as best he can and with varying degrees of correctness.

Bill starts on his book of subvouchers, put the date down, makes a notation of the net amount of the gas, the amount of the tax, the fact that it is a transit purchase, that a contract is impracticable, that a refund is to be claimed, that the dealer does or does not pay the tax direct to the State, that the dealer would not accept a certificate, puts his courtesy card in one pocket, his identification card in another, his book of certificates in another, his book of subvouchers in another, berates the fellow who instigated the gas tax, sighs, gets in his Government-owned auto and drives away.

COMMENT FROM MASSACHUSETTS ON STOUFFER'S MEMORANDA TO FIELD MEN

The account in the September issue of the News relative to Mr. Stouffer's policy of sending to his assistants a summary of activities during the progress of the field work, is of interest. Until this present season, a similar practice has been followed in Massachusetts, ever since the beginning of the present program, but for some unknown reason it was not followed this year. It was probably a matter of eliminating some activity and that was the one that was cut.

Our practice has been to submit to the State Cooperator on the 10th of each month a brief summary of blister-rust control activities in the State for previous month. Copy of this report to the Commissioner, usually with additional comments, was then forwarded to each of the district agents for their information and interest. In these reports, while their value has been appreciated as stimulating an agent to do his best work, it was deemed wise not to emphasize too much the accomplishments in one district over those in another.

It is agreed that competition is useful to stimulate activity, but it was felt that we must also recognize the fact that conditions vary so much from district to district that a comparison of results is not always fair and may tend to discourage rather than to encourage. In other words, one agent may be working in a particular section where wealthy estate owners abound and where an owner thinks nothing of expending hundreds of dollars monthly in the upkeep of his property. Another equally ambitious, enthusiastic, and energetic agent may during the same period be isolated in a section where owners are "land poor" and where the best an owner can possibly do is to make use of his own time in keeping his property intact. It is obviously unfair to compare the accomplishments of agents carrying on under such completely opposite conditions. The same can be said with regard to the ease or difficulty under which control can be accomplished because of the number of Ribes. And so on.

While, therefore, we do believe that these reports are a highly desirable feature of our work, our experience is that they should be written "with a care". The idea is a good one, "Dave"!

Nov. 1.

C. C. Perry, Mass.

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THINK IT OVER!

9. "Hard work cures the blues, its the only remedy."
10. "It's not what you tell a man that helps him, it's what he learns."
11. "Energy and earnestness creates confidence and success."
12. "Mistakes teach us how to avoid them."



BLISTER-RUST CONTROL REPRESENTED AT TRICENTENARY EXPOSITION  
OF GOVERNMENTAL ACTIVITIES, BOSTON, MASSACHUSETTS.  
SEPTEMBER 28 - OCTOBER 11, 1930.

In connection with the 300th Anniversary of the founding of the Massachusetts Bay Colony, an elaborate series of celebrations have been in progress in Massachusetts during the present year. Among these celebrations, the State Government as its contribution to the commemoration of the event, appropriated funds to stage something that has apparently never been attempted before elsewhere in the nation. This feature had the rather formidable yet descriptive designation of "The Tricentenary Exposition of Governmental Activities of the Commonwealth of Massachusetts" and was designed to provide "a public demonstration of the forms, activities, accomplishments, and field of operation of the several departments of State Government and of the Executive and Administrative work of the Commonwealth".

Blister-Rust Control Exhibit

Each of the twenty "administrative departments and commissions under the Governor" was represented by an appropriate exhibit. As one of the functions of the Massachusetts Department of Agriculture, blister-rust control was represented in the exhibit of the Division of Plant Pest Control. Unfortunately, the space allotted was but 4 feet of table and wall space, and therefore it was not possible to put on an elaborate demonstration. However, two small infected pines; one medium sized (8 inches in diameter) and a number of smaller sized stem cankers; several window envelopes and Riker mounts for the display of infected Ribes leaves, and a holder for the distribution of blister rust leaflets, together with a few briefly-worded signs, made up the official display. It was gratifying to note the interest shown by the attending public, and our labors in manning the exhibit were fully repaid.

Children Attend the Exposition

One of the features of the plan of the exposition was to arrange for the attendance of school children. Each morning during the two weeks, the armory, in which the exhibits were housed, was literally besieged with hundreds of school children from the cities and towns in Metropolitan Boston. This plan was of particular aid in securing helpful publicity for the event. Incidentally, this affair gave us a splendid opportunity to make use of the small abbreviated blister-rust folder or leaflet. It was extremely helpful to have something that could be distributed generously without fear of wasting public funds. We are convinced also that with the throngs of school children that were in attendance, some knowledge of blister-rust control must have reached a great many persons who had never even heard of the disease before. We shall not know, of course, just how much good these leaflets did. We do know that even though 5,000 of them were given out during the two weeks, we have not wasted very much money if only a small percentage of them were of real service to someone.

### Forestry Exhibit

The Department of Forestry of the Massachusetts Department of Conservation was represented at the exposition by an elaborate display of fire prevention and suppression equipment, material relative to the control of the gypsy and brown-tail moths, a realistic representation of the recreational value of forests, and a splendid miniature representation of the various steps in the production of a forest crop; namely, planting, weeding, thinning, reproduction cutting, and careful harvesting. Their catchy slogan "Timber - our greatest renewable asset" - "Use it and grow more" was most effective.

Space will not permit of a description of the exhibits staged by the other departments but the entire affair demonstrated anew that "The Government of the Commonwealth is today as always, a manifestation of the will of the people. Ever progressive, it has adhered to the principles which guided the founders in establishing the Massachusetts Bay Colony three centuries ago."

### Attendance

From the standpoint of interest and attendance this exposition was very much of a success. The official attendance was recorded as 375,000 although it is a question whether all of the thousands of school children could have been included in this official total.

Nov. 1.

C. C. Perry, Mass.

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### BLISTER-RUST EXHIBIT IN WASHINGTON THEATRE

The Fox Theatre in Washington, D. C., has been featuring for a number of weeks, the activities of the Department of Agriculture through small exhibits in their lobby. The Office of Blister-Rust Control had an exhibit in this theatre during the week of October 31 to November 6. The central point of the exhibit was a large frame built on the Massachusetts plan, with two trunk sections, about a foot in diameter, taken from diseased pines, and a third section showing aecia which had been painted to represent the natural colors of diseased bark and aecia. Flanking the frame were upright posters "Uproot Currant and Gooseberry Bushes to Prevent Damage to White Pines" and "Currant and Gooseberry Bushes of all Kinds Spread Blister Rust to White Pines". Above the diseased trunks was the enlargement of the colored panel taken from Circular 22. Specimens of living red currants were exhibited as well as large framed photographs showing various phases of the blister rust and its control.

The exhibit was seen by a number of our men, including Mr. Philip Barber of New York. Mr. Barber states he was interested in watching the reaction of the public to an exhibit such as this and that after the show he noticed a large number of people stopping and examining it.

The framed exhibit is now being set up in the Washington Office to show visitors.

R. G. P.



CLEPPER WRITES INTERESTING CIRCULAR ON BLISTER-  
RUST CONTROL IN PENNSYLVANIA.

(Continued from October issue)

Occurrence of White-Pine Blister Rust in Pennsylvania

After its first discovery at Dresher, Pennsylvania, in 1905, no additional reports were made until 1910 or 1911 when a State nursery inspector found this destructive tree disease at a nursery at Chestnut Hill, Philadelphia on American white-pine nursery stock imported in 1907 from a nursery at Halstenbek, in Schleswig-Holstein, Germany. Subsequently, infections were found near Portage, Cambria County, at Delaware Water Gap, Monroe County; at Bryn Mawr, Montgomery County; near Reading, Berks County; near Morrisville, Bucks County; and at Mount Union, Huntingdon County. These infections were found from 1910 to 1916, and all were on white pine nursery stock imported from Europe.

No additional infected areas were reported in Pennsylvania until 1921 when Mr. S. B. Detwiler, the present Chief of the United States Office of Blister-Rust Control, discovered the pine and Ribes stages near Equinunk in Wayne County, along the Delaware River.

It was not until 1925 that another infection of white pine blister rust was found outside of Wayne County. It is now known, however, that blister rust was present on pine in the northern tier counties of Pennsylvania as early as 1916, and probably also on Ribes. Infection of the rust on pine are now known to have been present in Cameron and Potter Counties as early as 1919, in Wayne County in 1919, and in Clarion County in 1923. Many new infection areas with cankers on pines dating back to 1919 were found by L. W. Hodgkins, Federal blister-rust scout, in 1928. In addition to the foregoing discoveries of the blister rust on pine in the northern tier counties, a survey conducted by the Pennsylvania Department of Agriculture in the summer of 1927 disclosed the presence of rust on Ribes in forty-three counties of the Commonwealth.

Prior to 1929 blister rust infections were known to have been present on white pine in Berks, Cambria, Montgomery, Clarion, Potter, Susquehanna, Cameron, Clinton, Lycoming, Wayne, Monroe, Bucks, Chester, Lancaster, Monroe, and Huntingdon Counties. In 1929, scouting for the blister rust was carried on by Messrs. L. W. Hodgkins, C. A. Coover and H. E. Clepper. This resulted in finding additional blister-rust infections on white pine in Warren, Tioga, Bradford, Susquehanna, Sullivan, Wyoming, Pike, Luzerne, Columbia, Union, Centre, Fulton, Franklin, Perry, Cumberland, Venango, and Dauphin Counties. Blister rust on white pine is now known to occur practically all over Pennsylvania. In fact, the blister rust on white pine has spread so rapidly in the past ten years that it is entirely logical to assume that, in Pennsylvania, it occurs or will occur unless prompt control measures are taken, wherever white pine is associated with wild or cultivated Ribes.

( To be continued in the December issue)

### MAKING THE MOST OF OUR TIME

There is always a possibility of making better use of our time in the actual eradication work. Compared to the work of the first year or two, in which our crews worked every area for currants and gooseberries, we have progressed far in that we now have a scout who precedes the crews and who works certain areas himself. Other areas with many Ribes are left for the crews, to "mop up". Since the major portion of our eradication work is, however, done by crews varying from 2 to 6 men, and since there are hundreds of crew men on the work every summer, there is likely to be a considerable waste of time which is preventable. The following analysis of the waste of labor by the Supervisor of Safety and Training for the American Rolling Mill Company is so basic that some of it would seem to apply directly to our work:

#### "Preventable Waste of Time.

##### 1. Idleness of Men on the Job.

When there is idleness, it is due to:

- (a) Poor supervision - foreman is not getting around.
- (b) Lack of asserting authority - good fellow attitude.
- (c) Too many men on the crew.

##### 2. Lack of Proper and Sufficient Training.

- (a) A foreman should train his men how best to do the job.

Show them how.

- (b) Check his men to see that they are following instructions on best methods.

##### 3. Poor Planning by Supervision.

Some men are "doers" rather than planners. This results in the foremen frequently doing the job himself.

He should:

- (a) Study the job to see how it can best be done.
- (b) Place men to the best advantage; some men are more proficient in certain work than others.
- (c) Plan schedule of work to keep all men busy.
- (d) Arrange machinery for maximum production.

##### 4. Holding Men for Emergency.

This usually means keeping men on the job with no definite work for them. The employment reserve is set up to take care of extra needs. Use this service.

##### 5. Lack of Full and Proper Instructions.

A foreman should:

- (a) Tell his men just what is to be done.
- (b) Tell them why it is being done a certain way.

##### 6. Tardiness - Quitting Early.

A foreman has a right to ask his men to work full time.

When these practices are prevalent, it is due to:



- (a) Improper supervision - lack of authority.
- (b) Good-fellow attitude on part of foreman."

The above quotation from an article by H. T. Gisborne of the Northern Rocky Mountain Experiment Station, which deals with "Foreman Training", was given in the "Smoke Screen" by our fellow forester Mr. A. G. Hamel, U. S. Regional Forest Inspector.

R.G.P.

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#### HOW NOT TO WRITE FARM NEWS

News writing is supposed to tell something Here is a horrible example which tells nothing.

"A good-sized crowd was in attendance at the farm bureau meeting held here Saturday. State speakers were in attendance and delivered addresses that were both inspiring and instructive. A well-arranged program had been prepared for this occasion and no part was omitted. The gathering was enthusiastic from beginning until the close and bespeaks progress for the organization in the future. Many subjects were thoroughly discussed that will prove of benefit to everyone. The county farm bureau has reached a magnitude of importance in the community, and there isn't any doubt that such an organization will prove beneficial to its members and the community in general."

Someone's comment on this is that "There seems to have been a meeting". in short, it is just a collection of words and nothing else.

(N. Y. Extension Service News)

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#### WHITE-PINE STAND THINNED ANNUALLY FOR 18 YEARS SHOWS SUPERIOR VOLUME TO UNTHINNED STAND.

A 47-year-old stand of northern white pine at Durham, New Hampshire, that has been thinned annually for the last 18 years now has a greater volume than a comparable unthinned stand containing more than twice as many trees, writes K. W. Woodward, forester of the University of New Hampshire. The first thinning removed about half the trees and later thinnings have been at the rate of 1 cord per acre per year. In 12 years the thinned plot increased 102 per cent in volume while the unthinned plot increased but 72 per cent. Average annual diameter growth is twice as great in the thinned as in the unthinned stand and the trees are taller, of better quality, and more thrifty.

(Extract from the "Forest Worker", Sept., 1930.)

ABANDONED FARM AREAS IN NEW YORK \*

(Continued from October Issue)

How May The Land Be Brought Into Use?

Not only are the vast areas of idle land in the State non-productive, but they have a very depressing influence on agriculture and on the State as a whole. The traveler sees so much idle land that he does not notice the excellent farms. The farmers of the State who are on good farms are depressed by seeing the innumerable failures in their own occupation. These lands are constantly wasting the lives and the money of new buyers, who should be spending their time and money on better land.

In order that such land shall be kept from agricultural production and still not remain wholly idle and unproductive, forestry has been suggested as the logical remedy. Fortunately, much of the land not adapted to farming is excellently adapted to growing trees. Most of the best white-pine land of New York is inferior for farming. Consequently, from the standpoint of soil, a forestry program is thoroughly justified.

Many fields that have been idle for twenty years or more are bare, except around the edges, where there are seed trees. After a field has been idle for a time, a neighbor may run a mowing machine over it in order to get the little hay that has grown, and so cut off any trees that have started.

A definite reforestation program seems desirable for the cleared land. About 35 per cent of the total land area is covered with woods. Some of the roads should be left open. Brush lines have already grown up along many of the field lines. Around each woodlot there is a strip too shaded to be planted. In most of the areas, a few farms are included that might be left as farms, for a time. The area to be planted would probably average less than 60 per cent of the total area, but would be much more or less than this in individual areas.

The owner of this land cannot reforest it because with so little property he cannot make long-time investments.

If the land were relieved from taxation, some wealthy persons would be glad to buy it in large tracts for private recreation and hunting... A better policy would seem to be to hold it for lumber and public recreation. Fortunately, there are such areas that are readily accessible from all parts of the State.

The township in which much of this land is situated is necessarily a poor township financially, and frequently the county is a poor county unless it happens to include a large city. Therefore the local governments are not in a position to do much reforesting.

\* Cornell University Agricultural Experiment Station Bulletin 490, July, 1929, by Lawrence M. Vaughan.



Individuals, clubs, cities, school districts, townships, and counties should be encouraged to plant trees. The area is so large, however, that there is no probability of getting a large proportion of it planted by these agencies. Apparently the State must do most of the work if it is to be done. \*\*\*.

The purchase of this land by a public agency would make it possible for the remaining residents to leave for sections of greater opportunity, and would put an end to the exploitation of innocent persons which has been going on for the past century.\*\*\*.

Lumber is not worth 207 per cent more than it was from 1890 to 1894, but other farm products are only 76 per cent higher than they were in that period. From present indications the ratio will be much further in favor of lumber fifty years from today. There will, of course, be periods of high and low prices; but over a series of years, lumber may be expected to increase in price relative to other farm products. When estimating the profits from tree planting, it is lumber prices fifty years ahead rather than present prices that should be considered. When lumber trebles in price and farm products have risen only 76 per cent, lumber is able to compete with farming on land where it formerly could not do so.

#### Freight Paid On Lumber Consumed in New York State

Freight paid for the primary distribution of lumber consumed in New York State amounted to nearly \$38,000,000. Some of the lumber is reshipped, so that the total freight would be more than this amount. Only about one million dollars of the freight was paid on lumber originating within the State.

If a million or more of the idle acres in New York State were growing timber, ultimately it would result in a saving of freight payments. The State has a distinct advantage over more distant States in producing lumber for use here. The freight on New York lumber averaged \$5.47 per thousand board feet, or less than one-half the freight on lumber from other States.

(The End)

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#### FELLOWSHIPS IN FORESTRY FOR THE YEARS 1931-32

An announcement has been received from the Charles Lathrop Pack Forest Education Board offering a number of fellowships for the years 1931-32. Six to eight fellowships are available. These will ordinarily be restricted to men of American or Canadian citizenship. Application for fellowships must be made in writing, on the prescribed form, on or before January 15, 1931, to Ward Shepard, the Secretary of the Charles Lathrop Pack Forest Education Board, 1214 Sixteenth Street, N. W., Washington, D. C. Application forms will be mailed by the Secretary on request.

R.G.P.

A M O N G O U R S E L V E S

Mr. S. B. Detwiler has an interesting and thought-provoking article entitled "The X-Factor in Forestry" in the Journal of Forestry for November, 1930.

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Mr. A. E. Fivaz has recently been placed upon the classified role in the Office as Forester.

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Mr. L. B. Ritter stopped at Washington October 18th for a week's work on his way west from the Blister-Rust Conference at Littleton. Enroute west from Washington he stopped off at Michigan and conferred with David Stouffer, State Leader, and at Madison, Wisconsin, with State Leader T. Kouba.

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Mr. R. P. Fatzinger, State Leader in Pennsylvania, and Mr. Philip E. Barber, Agent in New York, were recent visitors at the Washington Office. We are always glad to have the field men pay us a call when they are in Washington.

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Mr. Ernest D. Clark, Blister-Rust Agent in Connecticut, resigned his position on October 15th.

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Mrs. Coral J. Photis, former stenographer in the Washington Office, who has been visiting in southern Europe for the past nine months, dropped in at the Office Monday to see old friends. She reports a wonderful trip.

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### Wedding Bells

Mr. R. P. Fatzinger, Agent in charge of Blister-Rust Control in Pennsylvania, and Miss Margaret Barbara Burt, daughter of Mr. and Mrs. M. M. Burt of Coudersport, Pa., were married in Punxsutawney, Pa., Saturday, October 25, 1930.

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Mrs. Nellie F. Acton, Junior Clerk Stenographer in the Washington Office resigned October 20.



Miss Maude A. Thompson is the author of Miscellaneous Publication No. 80 of the U. S. Department of Agriculture which is entitled "Summary of State and Territorial Plant Quarantines Affecting Interstate Shipments", published July, 1930, 127 pages. Miss Thompson was in the Office of Blister-Rust Control from June 20, 1919, to June 30, 1928, at which time she transferred to Plant Quarantine and Control Administration.

Congratulations of the Office to M. A. T.

P U B L I C A T I O N S
-------------------------

Blister Rust

Anonymous - White-Pine Blister Rust Control. Biennial Report of the State Department of Agriculture, Michigan, for 1927 and 1928, pages 48 to 50. This includes a map showing the white-pine blister rust situation in the State as of July 1, 1928.

Hubert, Ernest E. "Forest Pathology" in Science for October 10, 1930, p. 351 to 356. Dr. Hubert mentions the blister rust in several paragraphs. He states that "The white pine blister rust, the chestnut blight and, potentially, the larch canker are the most important of all our tree diseases, judging by the damage produced, the species of tree involved and the comparatively brief periods of attack. And all three of these diseases have been brought to us from foreign countries".

Pierce, Roy G. White-Pine Blister Rust (A summary of the Blister-Rust Situation in the United States in 1929), in Plant Disease Reporter, Bureau of Plant Industry, Supplement 75 "Diseases of Plants in the United States in 1929", page 67, June 15, 1930.

Ribes

Marsh, R. W. and Maynard, J. G. Supplementary Note on the Control of Black Currant Leaf Spot. Ann. Rept. Agr. & Hort. Res. Stat. Univ. Bristol, 1929-:166-167. (1930).







# THE BLISTER RUST NEWS



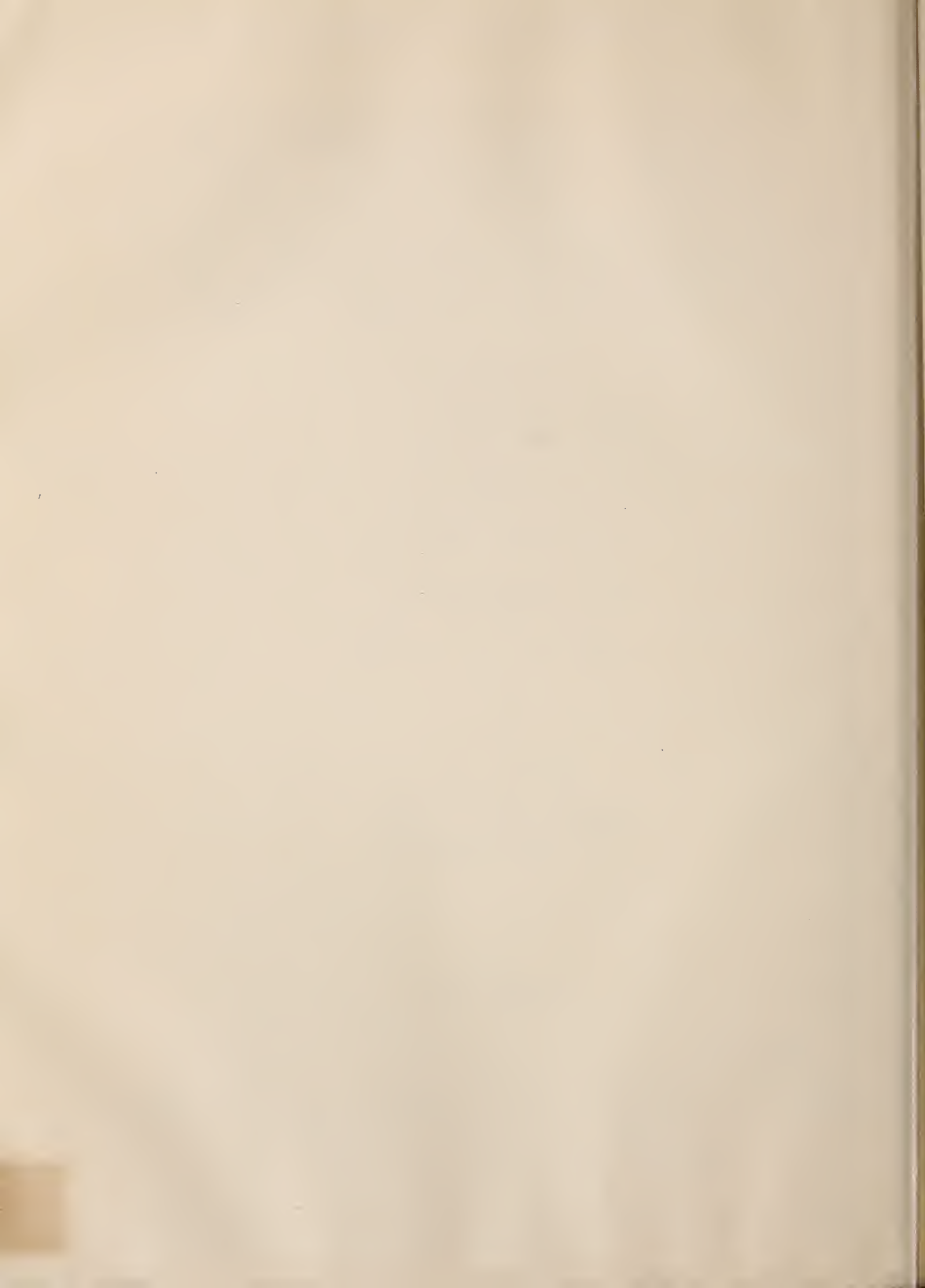
December, 1930.

Volume XIV

Number 12

U.S. DEPARTMENT of AGRICULTURE  
BUREAU of PLANT INDUSTRY  
OFFICE of BLISTER RUST CONTROL





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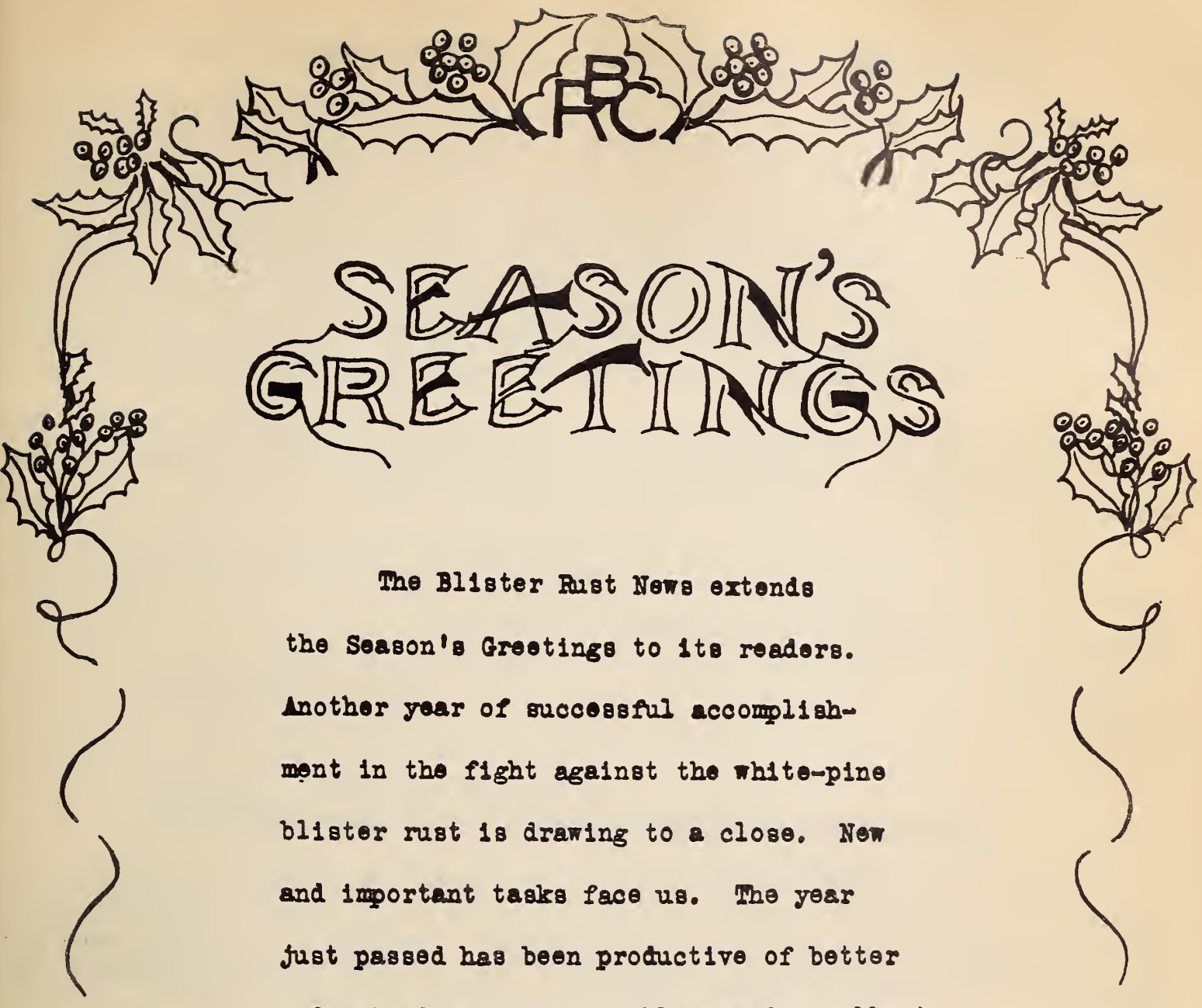


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E D I T O R I A L   S T A F F

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# SEASON'S GREETINGS

The Blister Rust News extends  
the Season's Greetings to its readers.  
Another year of successful accomplish-  
ment in the fight against the white-pine  
blister rust is drawing to a close. New  
and important tasks face us. The year  
just passed has been productive of better  
understanding of our problems and excellent  
cooperation in meeting them.

May the New Year bring to the Blister  
Rust Personnel and their coworkers renewed  
spirit and enthusiasm to carry their work  
to even greater achievements in the future.



PROGRESS OF DAMAGE ON CRANE PLOT - IPSWICH, MASSACHUSETTS

The annual inspection of the Crane Plot at Ipswich, Massachusetts, was made on November 20, in company with State Leader Perry. Since the 1929 inspection, conditions have been disturbed somewhat by the action of the owner in removing all the dead trees on the area. This was done apparently because the plantation had become unbearably unsightly with the increasing number of dead and dying pines. This action on the part of the owner has necessitated the placing of numbered stones to mark the location of the trees that have succumbed to the disease. With this provision, the area can still be used with effect to demonstrate blister-rust damage to inquiring property owners.

During 1930 the number of trees that have died increased from 54 to 68, so that to date, 47.5% of the trees originally planted have been killed. Of the remaining live pines on the plot, one-third are infected.

An effort will be made at a later date to present in graphic form a complete summary of our studies on this interesting area. Annual inspections have been made during the period 1923-30 inclusive.

Dec. 1, 1930.

Wm. T. Roop, Mass.

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CONTINUE POST-SEASON BLACK-CURRENT WORK IN MASSACHUSETTS

Since the close of the regular field season in October, we have continued our canvass for European black currants in the few remaining towns in the Norfolk County section of District III. On November 29, the location work in the town of Milton was completed. The following data may be of interest:

Town area.....	8,441 acres.
No. of properties inspected.....	3,648
No. of patches of black currants found.....	108
No. of bushes found.....	618

This work has been carried on by the agent alone.

Dec. 1, 1930.

E. M. Brockway, Mass.

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PHENOLOGICAL DATA

On the 23rd of October while taking infection data on the Coburn Heirs' Area at the Forks, Maine, I found a blister-rust canker producing aecia. Probably this phenomena was due to the warm weather during this month. However, the three days previous to the 23rd were fairly cool.

John MacG. White, Maine.

CONTROLLING THE BLISTER RUST BY PRUNING

There is probably nothing very new in the following observations but they may prove of some interest.

While carrying on pruning operations on our State forests I find that many good dominant trees are saved in the stands of white pine by the pruning of branches with living blister-rust cankers still some distance from the trunk. Heavy infection occurs in many sections but it seems that the eradication work was done in time to save enough of the stand to provide final crop-trees by pruning.

While working on the telephone line leading to the Pico Mt. fire lookout tower I observed areas where R. prostratum formed almost a complete ground cover, acres in extent. This was at an elevation of 3,500 to 3,800 feet. It was late in September and telia were very plentiful everywhere. The nearest pine was in the Rutland Municipal Forest some three miles distant.

Will you kindly let me know what is considered a safe distance to figure between the point of evident infection on branch cankers to the greatest possible extent of the mycelium. That is, when pruning white pine would one be safe in pruning trees where the living canker is four or six or eight inches from the trunk?

W. E. Bradder, District Forester,  
Vermont Forest Service.

Dec. 4, 1930.

Edit:- In answer to Mr. Bradder's query, reference is made to Department Circular 177 by Messrs. Martin, Gravatt and Posey, on the "Treatment of Ornamental White Pines Infected with Bister Rust." They state:

"White pines heavily infected with blister rust can be saved if treatment is given in time. This has been demonstrated by the results of experimental and practical work. In July, 1917, an experiment in removing infections was begun on a group of 19 ornamental pines at Kittery Point, Me., when 95 infections were cut out at distances ranging from one-fourth of an inch to 6 inches back of the edge of the cankers. Cankers on twigs and branches were removed by cutting off the branches. Infections on trunks and large limbs were treated by removing all diseased bark and a strip of healthy bark around the edge of the cankers. Upon examination in 1920 it was found that all cuts made  $1\frac{1}{4}$  inches or more back of the edge of the canker were healthy."

From the above statement it can readily be seen that it is safe to prune white pine trees where the living canker is 4 to 6 inches from the trunk.

We are always glad to hear from our ex-blister rusters and to have the benefit of their experience in their new work.



CLEPPER WRITES INTERESTING CIRCULAR ON BLISTER-  
RUST CONTROL IN PENNSYLVANIA.\*

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(Continued from November issue)

Blister-Rust Control in Pennsylvania

In 1924 wild gooseberry bushes were eradicated from the area within and surrounding the Clearfield Forest Tree Nursery in Clearfield County and from adjacent white pine plantations. The first eradication crews were not well organized, and, having had no previous instruction, many bushes were missed. In the Spring of 1926 and again in the Spring of 1928, reeradication work was carried on at the same places with better success, resulting in the removal of practically all live stems of Ribes.

Eradication work at the Greenwood Forest Tree Nursery in Huntingdon County and the Mt Alto Forest Tree Nursery in Franklin County was started in 1927, when organized crews removed all Ribes within and surrounding these nurseries for a distance of 1,500 feet. The control work has been continued each year at these nurseries, as part of the general sanitation program.

In addition to these eradication projects, some foresters and forest rangers have been digging wild and cultivated Ribes found growing near white pine plantations and natural stands. This work has been done at odd times, with no special report made until 1929. Forest Ranger E. N. Jenckes of the Tioga Forest District, during the period 1923-1929 inclusive, destroyed 6,645 Ribes bushes.

Beginning in 1929, eradication work was started on the Cook State Forest Park in Clarion County, on the Wyckoff Run Plantations, and in plantations of the Sproul Forest District in Clinton County. With the appointment of a forester and an assistant to take charge of white pine blister rust control, eradication projects were started in Lycoming, Potter, Pike, Union, and Tioga Counties.

Ribes plants were eradicated from 4,877 acres in the Pennsylvania State Forests in 1929, resulting in 305,583 Ribes bushes being destroyed at a cost of \$3,387.96. The average cost per acre was 69 cents. The Ribes bushes that were destroyed averaged 62 per acre.

Cost of Control Work

In the New England States and New York during 1929, blister rust operations covered 919,755 acres, at an average cost per acre of only 18.6 cents. In Pennsylvania, the cost of Ribes eradication ranges from 20 cents to \$1.25

\* Clepper, H. E. "White Pine Blister Rust in Pennsylvania." Research Circular 2, Pennsylvania Department of Forests and Waters, 1930.

per acre. The maximum eradication cost per acre is high, and is required for only the most adverse conditions. Effective blister-rust control in farm woodlots and white pine plantations ordinarily should not exceed the average cost of 69 cents for Pennsylvania State Forests, and may often be considerably less.

Extracted by R. G. P.

(The End)

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COMMENT ON THE ANNUAL CONFERENCE

Although no comments have been solicited regarding this year's Annual Blister-Rust Conference, I would like to record my feeling that the sessions in Littleton and vicinity were very helpful and much of a success. I for one would certainly regret to have these annual meetings discontinued.

Those of us who come from districts where the rust is perhaps less spectacular in its effects than it is in sections of New Hampshire and Vermont, sometimes wish that we too had a few natural roadside demonstration areas for use in stimulating interest among our land owners. On the other hand, we are glad of course that the rust has not made such inroads in our particular white-pine areas.

The trip to Waterford was particularly helpful because it brings out like nothing else can, the fact that there is a real measurable dollars-and-cents element of damage when the rust attacks trees of the size of those on that particular area. The merchantable value in that stand at Waterford has certainly had a shock. The most important point of all is that given the same conditions, such a situation is going to be duplicated elsewhere. Visits to such an area, therefore, serve to urge us to even greater efforts to prevent similar damage in our respective localities. We have heard a lot about Waterford; it was helpful to actually see the area.

I suppose that the visit to the Pratt holdings might be considered the real treat of the conference. We have all of us read about Mr. Pratt's pioneer work in forestry and it was an unusual opportunity to be able to look over the area under the guidance of the operator himself. Every plot had its point of interest and its practical forestry information. Mr. Pratt's experiments certainly show results and that's what counts.

As to the indoor sessions, I feel that too much is attempted for the time usually allotted. I believe that more time should be devoted to this phase of the annual conferences to come.

Dec. 1, 1930.

E. M. Brockway, Mass.



BLACK CURRANTS FOUND GROWING WILD IN NEW YORK SWAMP

A species of black currant whose identity is still somewhat in doubt was found in August, 1930, by Mr. B. F. Muzzy, one of W. F. Pratt's assistants, growing in profusion in an extensive swamp near Tupper Lake in northern New York.

An examination of the black-currant leaves sent to the Washington Office led the writer to believe that it was not the wild black currant, R. americanum, but that it was either Ribes nigrum or Ribes hudsonianum. The New York specimens have much in common with those of both species, which are very closely related botanically. Cuttings have been sent to Washington by Mr. A. E. Fivaz to grow for studying. Both Mr. Fivaz and Mr. Littlefield of New York have made studies of these currants from the Tupper Lake swamps. Since the flowers of hudsonianum and nigrum differ markedly according to Dr. Coville, it is hoped that we can secure flowers in the spring in order to make positive identification of the species. Mr. Fivaz reports that he studied material of Ribes hudsonianum from Michigan and Minnesota, and Ribes nigrum and the Tupper Lake currant. He states that:

"Assuming that typical material of all three currants was used, the Tupper Lake currant is undoubtedly nearer nigrum than hudsonianum. There is some chance, however, that it may be a new species or even a cross between two species. The writer has not sufficient information as yet on the Tupper Lake currant to make a positive identification."

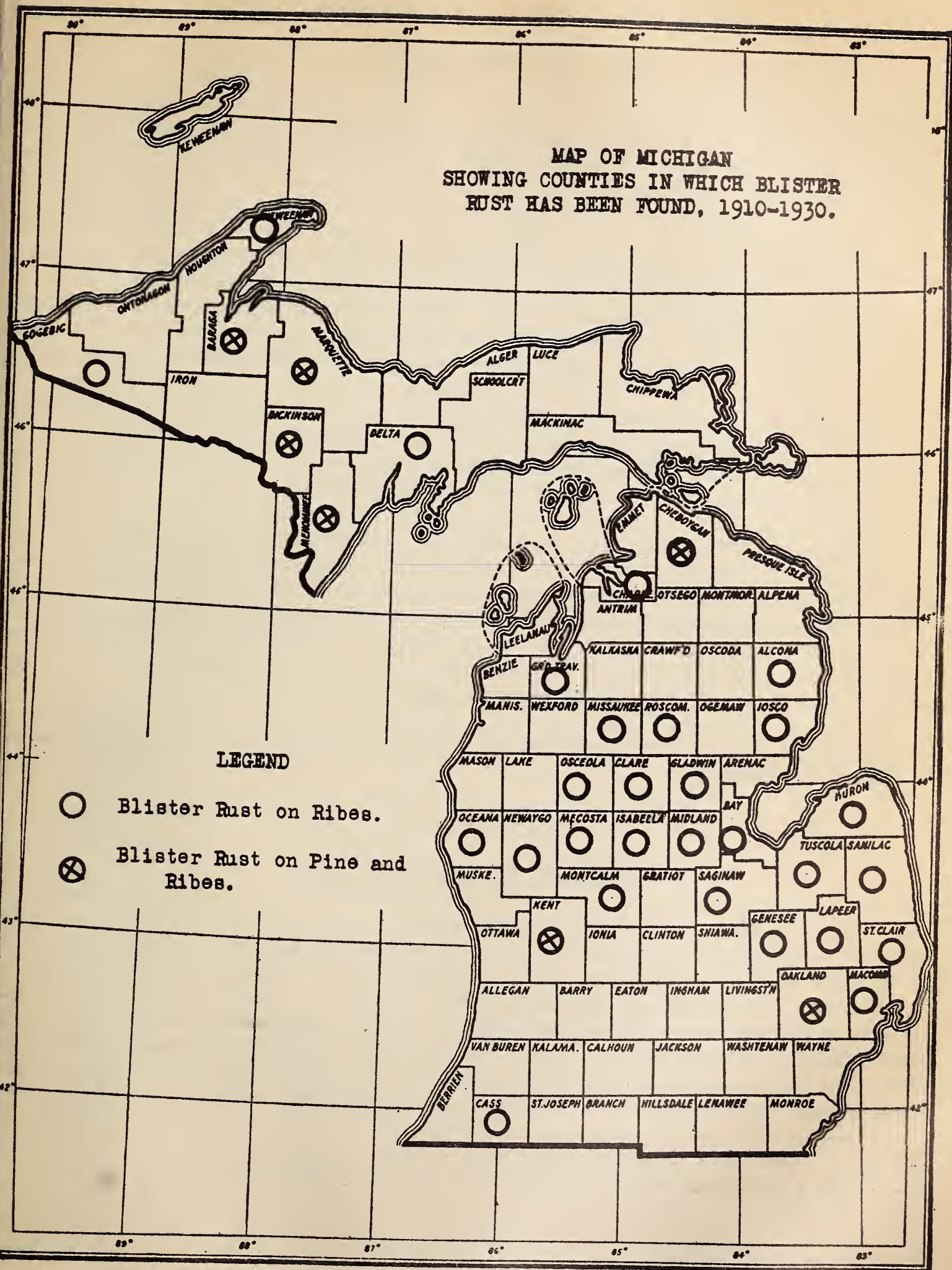
The leaves of the Tupper Lake specimens resemble Ribes nigrum in form and in being glabrous, that is devoid of hairs, on the under surface. The under surface of leaves of Ribes hudsonianum are more or less pubescent. The new growth of the Tupper Lake currant, being tan throughout, resembles hudsonianum in color much more than it does the new growth of nigrum. The winter buds of the Tupper Lake currant are much smaller than those of nigrum and are closely appressed to the stem, while the buds of nigrum, at least those which have been recently studied are much plumper, larger, and extend out from the stem at an angle of about 30°. The odor of the crushed stem of the Tupper Lake specimens is not nearly so strong and pungent as that of nigrum.

If the species is later determined to be R. hudsonianum, this is simply an extension of its known range eastward to include another State. Since Dr. Coville published his monograph on Grossulariaceae in North American Flora in 1908, the range of hudsonianum, which he gave as "Hudson Bay to Central Alaska, and southward in the interior of British America to eastern British Columbia and Ontario, entering the United States in northeastern Minnesota" has been extended by blister-rust control workers to northern Wisconsin, and to the northern and southern peninsulas of Michigan.

If, however, the species turns out to be Ribes nigrum, this will cause us to revise our opinions as to its ability to become naturalized in the United States.

Roy G. Pierce.







BLISTER-RUST CONTROL ON THE NATIONAL FORESTS

The white-pine blister-rust continued its rapid spread in Idaho and Oregon. This disease is so deadly to all of the white (5-needled) pines that its control is a prerequisite to the growing of timber crops of valuable trees. Fortunately, part of its life cycle is in the leaves of currants and gooseberries, and destruction of those plants in the vicinity of the pines makes control possible. During the year strips around Forest Service nurseries in Montana and West Virginia were cleaned of bushes of these alternate hosts, to prevent the possibility of the infection of nursery stock. This was accomplished through the cooperation of the Bureau of Plant Industry, but funds were not available for the much larger job of destroying the wild currants and gooseberries on about 1,500,000 acres of white-pine producing land in northern Idaho, western Montana, and northeastern Washington, where the largest values are now endangered. For the fiscal year 1931 a fund of \$25,000 was appropriated for beginning this protective task in cooperation with the Bureau of Plant Industry, but a much more rapid extension of the protected area will be necessary than can be effected with this annual amount if very serious losses are to be avoided in the western white-pine region. Furthermore, similar conditions are bound to develop in the sugar-pine region of California.

Surveys made during the year indicate that currants and gooseberries are not abundant on the eastern white-pine growing areas within the national forests in Virginia and North Carolina. The growing of this tree in this region will consequently not be hindered to the extent that had been feared. However, other species than white pine are being chiefly used in establishing plantations on the national forests in the Lake States and in Pennsylvania, partly because of the danger from this exotic rust.

(Extract from Report of the Forester (R. Y. Stuart) for Fiscal Year Ended June 30, 1930.)

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NEW PINE INFECTION IN OREGON

Mr. Goodding reports that Eldon Lyle discovered the blister rust in September in the Marion Lake region of the Santiam National Forest southwest of Mount Jefferson in Oregon. Lyle and Goodding visited the region again in October and found scattering blister-rust infection on pine for 4 or 5 miles in several places quite isolated from Ribes. One tree about 40 feet high was plastered with rust from top to bottom, bearing probably several hundred cankers. R. sanguineum is considered the probable alternate host. This is the southernmost point in the West where blister rust has been discovered on pine.

(Extract from Western Blister Rust News Letter for October, 1930.)  
Edit:- Very probably western white pine is the species infected.

REERADICATION OR REPLACEMENT?

Mr. C. H. Johnson of the Western Office has struck an interesting note in a recent article in the "Western Blister Rust News Letter" for November, entitled "Elimination of Brush by Replacement." He writes concerning the western work.

"If our program is merely to retard or slow down the spread of blister rust, then we have indeed made quite remarkable progress, but if we are compelled to repeat the process we must by force of necessity make our work more permanent and less exacting. So far we have been merely suppressing Ribes; the next step is to make it impossible for regrowth of Ribes.

"Brushy areas such as are found along our streams whether hand-pulled, cut, sprayed or burned will reproduce their kind unless checked. If Ribes bushes are destroyed we cannot depend on nature entirely to return some more desirable species to aid us from a protection standpoint. We can, however, plant what we wish to grow and rely on competition to aid us in our struggle against Ribes. Brush will not readily grow on a well grazed or properly cared for meadow and by proper spacing in tree planting operations the ground thereafter can be made automatically free of undesirable weeds and brush.

"The chief argument against the removal of brush appears to be an initial cost so high as to make this method seem impractical; however, if we can agree that the formation of the turf, or a planting operation, is a move in the proper direction we need not be too concerned at present over the initial cost, because there is every reason to believe that Ribes replacement methods can be made cheaper than periodic Ribes eradication.

"Another method of eliminating brush, but which may sound rather fantastical, is by creating Ribes-free areas along streams by planting coniferous species which are adaptable to moist locations. It must be common knowledge that along streams where a cluster of spruce trees occur no brush grows and the ground is covered with a mantle of dry needles or leaves. Under such a method the true meaning of forestry would be adhered to in every respect. Watersheds would be better protected and scenic values and wild life preserved. When our children or children's children attempt to control blister rust they will undoubtedly be hitting along such lines."

The maintenance of a fully stocked stand, and the use of pure pine where possible to keep the Ribes population down was brought out by the writer (Pierce) in a paper found in the Proceedings of the Eighth Annual Blister Rust Conference, in February, 1923, entitled "Forest Practice as Influenced by the



White Pine Blister Rust." He writes:

"In Ribes territory, even under the densest of pine stands, Ribes may be found. The bushes however are usually small, weak, and with few leaves in the case of gooseberries, but are larger in the case of skunk currants. Their infecting power is small as compared to bushes grown in the pastures or openings in the dense pine. From a blister rust standpoint it is advisable therefore to maintain a dense stand throughout the life of the forest.

"Cooper and Brierley show in their Ecological Study of Ribes in 1920 that gooseberries occur most commonly and bear most fruit and are most generally infected in orchards and pasture communities; that they are less common and with less infection in mixed woodland; and least in number and in infection in the climax forest.

"This conversion to pure pine forests is desirable from a blister rust standpoint. Since the forest cover is usually much denser in pure pine, less light is admitted and Ribes growth discouraged. It is believed that fewer re-eradications will be necessary in pure pine than in mixed hardwood and pine, since there is less fruit formed on Ribes in the pure pine, therefore less reproduction of seedlings."

Roy G. Pierce.

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#### PINE OR PORCUPINE?

The porcupine is not particular as to which species of evergreen he attacks, but in northern Michigan he seems to give preference to white pine. In the hardwood he works on sugar maples to a great extent.

Usually he picks the most thrifty, medium-sized trees. A ring of bark will be girdled at twenty or thirty feet above the ground, and then at various points higher up, with the result that the tree dies unless the girdling is done so far up that large limbs below can take care of the functions of absorption and life-giving. In that case, the tree dies above the girdled spot, making it a stag-head tree. The next limb below the girdle will then become the leader and grow on up but in a crooked and sickly manner. It will never make a sawlog. The strength of the trunk will go to the under limbs, which of course can never make sawlogs. The tree spreads out and shades the growth beneath it, in time rendering lifeless any younger pines that would have grown up straight alongside the older tree.

Young pine trees with tops stripped of bark and young conifers with dead tops have been increasingly evident in northern Michigan the past few years. As a timber-destroyer, the porcupine is no mean factor. He is a quiet but efficient worker when it comes to girdling young trees; in short, Porky has become one of our forest problems.

By James Clyde Gilbert.

(From "Field and Stream," October, 1930, page 34.)

FORESTRY CLUBS ON THE INCREASE

Through the courtesy of Mr. R. A. Turner of the Extension Service figures have been compiled giving the number of forestry clubs and forestry club members in the white-pine States of the Northeastern and Lake regions. Mr. Turner informs me that the forestry club movement is only just beginning, and yet the figures show 215 such clubs formed, with 4,113 members.

In these forestry clubs there may lie an excellent educational opportunity for our men. In some, if not all, of the States having forestry clubs, protection of the forests is a part of the regular educational program. It was suggested to Mr. Turner and he approves of the matter, that the State Leaders in charge of boys' and girls' club work be visited by the State Blister Rust Leaders to the end of working out a blister-rust control educational project for use among the forestry clubs.

November, 1930.

Roy G. Pierce.

SOME STATISTICS ON BOYS' AND GIRLS' CLUB WORK  
IN THE WHITE-PINE STATES OF THE EAST.

State	Number of Boys and Girls Club Members.	Number of Forestry Clubs.	Number of Members in Forestry Clubs.
Maine	4,692	--	--
New Hampshire	4,820	43	658
Vermont	3,505	5	64
Massachusetts	15,683	15	175
Rhode Island	2,509	--	--
Connecticut	4,117	2	19
New York	19,979	25	1,107
Pennsylvania	9,314	2	32
New Jersey	6,392	50	954
Michigan	23,140	14	218
Minnesota	33,080	12	145
Wisconsin	25,651	47	741
Total	152,882	215	4,113



### THE WALKER FOREST IN MASSACHUSETTS

A forest, part of which has been in the Walker family for 150 years is the subject of an article by A. C. Cline in the December number of the "American Forests and Forest Life." This forest now consisting of 1,100 acres will soon pass with the clearing off and flooding of the Swift River reservoir area to help out greater Boston's water supply. The bulk of the forest, about 800 acres, is on light, sandy soil ideally suited to growing repeated crops of white pine comparatively free from hardwood competition.

"Many years ago Mr. Walker learned that opening up his pine stands through a thinning, or a selective cutting greatly stimulated the growth of the trees left. Many cross-sections of butt cuts kept on exhibit at his home bear striking evidence of one or more periods of accelerated growth following cuttings. Not uncommonly the width of the annual growth rings has been tripled or even quadrupled as a result. And, furthermore, the selective cutting of his stands not only increased the growth of the remaining trees, but encouraged the establishment of pine reproduction in the openings made by the logging. By careful selection of the trees to be cut Mr. Walker has kept his stands in vigorous growing condition, improved their quality by always "throwing the growth" onto the best formed, immature trees, and provided seedling reproduction to take the places of the trees removed. He believes in cutting often enough to prevent slowing down in growth, or, in other words, he would prevent slow growth rather than cure it after it has become evident.

At intervals of ten to fifteen years each stand was cut selectively, enough trees being removed to allow the remaining trees plenty of room for growth during the next period. And the volume removed was never greater than the volume produced during the period. In fact Mr. Walker estimates that his pine stands have been growing at least 200,000 board feet annually, while his annual cut has seldom exceeded 150,000 board feet. Annual growth he estimates to be approximately 500 board feet an acre for well stocked stands. In making his selective cuttings Mr. Walker marked each tree to be cut, and supervised the work of the choppers. In this way the trees were felled so as to do as little damage as possible to neighboring trees or young growth, and the logs were laid out where they could be easily picked up. In order to facilitate felling, Mr. Walker often followed the well-known practice of cutting by groups, thus tending to develop what is known as the "group selection" form of stand, a very desirable form for pine on light soils.

"In addition to cutting merchantable trees in his older stands Mr. Walker has improved a great many acres of young pine, naturally seeded on open land, by the timely removal of gray birch and other overtopping weed hardwoods. This has been accomplished at little or no expense by giving the wood for the work. A small acreage of open land which failed to restock naturally has been planted to pine, but Mr. Walker does not believe in planting except as a last resort."

WHITE PINE IN PENNSYLVANIA PLANTATION SHOWS  
EXCELLENT GROWTH.

Some excellent growth of white pine was observed by Perry and Coover recently, while inspecting the plantations of the Westtown School, near West Chester, Pennsylvania, in the Valley Forge District. District Forester Brouse showed them a tree which measured 67 feet in height and 16.2 inches in diameter at breast height, 26 years after planting. The exact age of the planting stock is not known, but the tree may be assumed to be not over 30 years of age. Many of the white pines in the plantation were over 50 feet in height, and many of them were over 12 inches in diameter.

(Extract from the "Service Letter" of the Pennsylvania Department of Forests and Waters, Series 2, No. 388, November 27, 1930.)

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PINUS STROBUS, P. LAMBERTIANA AND OTHER  
TREES IN INDIANA.

Commenting briefly on the operation of the forest nursery, the Indiana Department of Forestry reports that Pinus lambertiana and Larix europaea were of little value, but that P. ponderosa, P. laricio, P. sylvestris, P. resinosa, P. strobus and Picea excelsa gave gratifying results. Fall seeding of white pine proved more desirable than spring seeding, giving approximately 100 per cent more seedlings.

(Indiana State Report, 1929, pages 46 - 49.)

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THINK IT OVER!

13. "Don't chase your troubles around a circle, get on top of them and stay there."
14. "Shots that hit are shots that count."
15. "No man rises without being knocked down a few times."
16. "Good work is impossible without enthusiasm."



A NEW PARASITIC DISEASE ATTACKING WHITE PINES IN THE  
UPPER PENINSULA OF MICHIGAN.

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While on my recent trip in Michigan, a disease resembling larch canker was found on white pines (Pinus strobus) in the Upper Peninsula, in the section known as the copper country, Keweenaw County. It attacks the trees much the same as blister rust and kills them in much the same manner. It appears to have come in on the foliage, worked back into the branch, causing a swelling and constriction, killing the branch, or in case of a small tree, killing the tree. Several young trees three or four feet high have died from the disease and other trees have many branch cankers. One tree has a stem canker about eight or nine inches from the ground and is about five inches at the lesion. The tree is dying from this canker; about two feet of the top having died from the same disease. All the trees in the immediate vicinity were infected.

The disease was noted for a distance of approximately 26 miles in a northerly and southerly direction, beginning at Ojibway and ending about a mile beyond the Delaware Mine. The following day while looking for blister rust, just north of Mohawk, more of the disease was found. This was in a small stand of white pines about 15 to 25 years old of the pasture type with long, lateral branches. Here hundreds of cankers were seen; some having worked back to near the trunk of the tree. No stem cankers were seen here.

The fruiting bodies are much like those of the larch canker, cup-shaped, and seem to remain open for some time before drying out, as nearly all of the fruiting bodies were open at the time I was there. Those on the dead wood seemed to be larger than those on the live wood. Young cankers resembled somewhat those of blister rust, but do not have the color. However, in other ways they might be mistaken for blister rust. The cankers seem to have worked about the same speed as those of blister rust, but this could not be determined exactly. No attempt was made to determine the extent of the spread. Some cankers were found about 50 miles south, in Marquette County. The disease seems to be as deadly as blister rust.

Specimens of this fungus are in the hands of Dr. G. G. Hahn of the Office of Forest Pathology, who is making a study of it for purposes of identification.

November 14. 1930.

L. W. Hodgkins, Mass.

Edit:--It may be remembered that a Dasyscypha canker of white pine was found by Dr. Hirt in the Upper Peninsula of Michigan. A record of this was given in the Blister Rust News for January, 1930, page 18.

Mr. C. R. Stillinger published an article in Phytopathology for June, 1929 (Volume 19, No. 6, pages 575 to 584), entitled "Dasyscypha Fusco-Sanguinea Rehm on Western White Pine, Pinus Monticola Dougl.".

O F F I C E   C O M M E N T

MEMORANDUM CONCERNING LIABILITY INSURANCE

Dear Mr. Avery:

I have your memorandum of October 30th in which you inquire whether the Ralph W. Lee insurance policy covers a person who may be injured while riding with one of our employees who is operating a government-owned car. Our Solicitor's Office discussed this informally with the Ralph W. Lee Company and were informed that the coverage in the group policy is the same as in any ordinary liability policy, that is, it does not cover injury to the assured, but protects him, up to the limit of the policy, against parties.

The courts have repeatedly held that passengers riding with the assured in the automobile, who might be injured as a result of an accident, may bring suit against the assured on account of injuries incurred. Passengers are therefore protected to this extent. On the other hand the Lee Company agrees under the terms of the policy, to defend the assured against claims brought against him by such individuals.

Very sincerely,

November 15, 1930.

(Signed) H. E. Allanson,  
Assistant Chief of Bureau.

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GASOLINE TAX

The States of Connecticut and New York have recently refused to make refund of tax on gasoline purchased for use in Government-owned automobiles. The principal reason is that the State laws fail to provide for refunds. Therefore, employees who may have occasion to buy gasoline in these States should endeavor to secure exemption of the payment of the tax at the time the purchase is made. The new exemption certificates, which were recently forwarded to employees driving Government automobiles, may be used for this purpose.

Of course the present arrangement for purchasing gasoline in the Northeastern States under contract does not involve the tax question as the contractor omits the tax from his bill.

H. P. Avery.



SUBSISTENCE EXPENSES--TRANSPORTATION BETWEEN  
TEMPORARY ABODE AND PLACE OF DUTY.

The expenses incurred by an employee while away from his permanent station, in going from his hotel to his place of duty and returning therefrom, are incident to subsistence and are included in the allowance authorized therefor. (A-32975) 10 Comp. Gen. 83.

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TRAVELING EXPENSES - LEAVE OF ABSENCE - TEMPORARY DUTY.

A civilian employee traveling under official orders from a place where he is on leave to a place not his headquarters for temporary duty, and return, is entitled to reimbursement of the expenses of transportation and subsistence while en route and while on such temporary duty, where the place where he was on leave is nearer to the place of temporary duty than is the regular duty station. (A-32676) 10 Comp. Gen. 57.

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BLACK-CURRENT SCOUTING IN IOWA

Mr. H. Ness, Asst. State Entomologist at Ames, Iowa, writes under date of September 27th concerning black currants in Iowa:

"We have been on the lookout for the black currants all season and, somewhat to my surprise, I have found more of them than I expected to. As a rule no quantity of them, and in many cases only one or two plants, may be found in an occasional nursery. We are keeping a record of the places where we have found them. Up to the present we have found no indication whatever of any of the white pine blister rust (in 1930).

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BLACK CURRENT ERADICATION IN BARAGA  
COUNTY, MICHIGAN - 1930.

Interviews with black currant owners.....	38
Number of bushes destroyed.....	249
Number of bushes infected.....	114
Percentage of infection.....	45.7
Area covered.....	476,160 acres

Baraga County was completed at the end of the field season, November 15.

D. J. Stouffer, Mich.

A M O N G O U R S E L V E S

Mr. S. B. Detwiler returned to the Office on December 5th from an extended trip through the Western and Lake States. Mr. Posey, who accompanied Mr. Detwiler on his trip to the West, will return to Washington within a few days.

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Mr. A. E. Fivaz returned to the Washington Office on November 18th from Warrensburg, New York, where he has been conducting his Ribes ecology investigations.

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Mr. H. J. Ninman of Wisconsin recently arrived at the Washington Office where he will be engaged during the winter writing up the reports on the Eau Galle, Wisconsin, experimental area.

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Mrs. Coral J. Photis, who recently returned from a trip through southern Europe, has been reinstated as Assistant Clerk in this Office.

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Messrs. F. J. Baker and R. E. Wheeler, who have been with Plant Quarantine and Control Administration for several weeks, returned to their old positions of blister-rust agents in New Hampshire and Massachusetts, respectively.

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P U B L I C A T I O N S

White Pine

Cline, A. C. The Walker Forest at Greenwich Village, Massachusetts. American Forests and Forest Life, December, 1930, p. 776-778.

Gevorkiantz, S. R. and R. Zon. Second-Growth White Pine in Wisconsin: Its Growth, Yield, and Commercial Possibilities. 40 p. illus., diags. Madison, Wis., 1930. (Wisconsin - Agricultural Experiment Station. Research Bulletin 93.)



BLISTER RUST PUBLICATIONS OF THE U. S. DEPARTMENT OF  
AGRICULTURE BY SERIES AND NUMBER.

B.P.I. Bul. 206 -	The Blister Rust of White Pine, by Perley Spaulding. 1911.	O.P.
B.P.I. Circ. 38 -	European Currant Rust on the White Pine in America, by Perley Spaulding. 1909.	O.P.
B.P.I. Circ. 129 -	The Present Status of the White Pine Blister Rust, by Perley Spaulding. 1913.	O.P.
Dept. of Agric. Bul. 116-	New Facts Concerning the White Pine Blister Rust, by Perley Spaulding. 1914.	O.P.
Dept. of Agric. Bul. 957-	Investigations of the White Pine Blister Rust, by Perley Spaulding. 1922.	O.P.
Dept. of Agric. Bul. 1186-	White Pine Blister Rust in Western Europe, by W. Stuart Moir. 1924.	B.R.C. &F.P.
Dept. of Agric. Circ. 177-	Treatment of Ornamental White Pine Infected with Blister Rust, by J. F. Martin, G.F. Gravatt, and G.B. Posey. 1921.	B.R.C.
Dept. of Agric. Circ. 226-	White Pine Blister Rust in the Western United States, by G. B. Posey. 1922.	B.R.C.
Farmers' Bul. 489 -	Two Dangerous Imported Plant Diseases - The White Pine Blister Rust, by Perley Spaulding. 1912.	O.P.
Farmers' Bul. 742 -	The White Pine Blister Rust, by Perley Spaulding. 1916.	B.R.C.
Farmers' Bul. 1024 -	Currants and Gooseberries, by Geo. M. Darrow. (Including The White Pine Blister Rust, by S. B. Detwiler, p. 23, and Laws Affecting Currants and Gooseberries, by J. F. Martin and Roy G. Pierce, 1919.	O.P.
Farmers' Bul. 1024 Rev. -	Currants and Gooseberries. 1922. (Revised)	F.P.
Farmers' Bul. 1398 -	Currants and Gooseberries - Their Culture and Relation to White Pine Blister Rust, by Geo. M. Darrow and S. B. Detwiler. 1924.	F.P.

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O.P. Out of Print.

F.P. Available at the Office of Forest Pathology.

B.R.C. Available at the Office of Blister-Rust Control.

Farmers' Bul. 1398 Rev. - Currants and Gooseberries - Their Culture and Relation to White Pine Blister Rust. 1925. (Revised) O.P.

Farmers' Bul. 1398 Rev. - Currants and Gooseberries - Their Culture and Relation to White Pine Blister Rust. 1929. (Revised) B.R.C.

Jour. Agr. Research Reprints

- 1917 Colley, R. H. Discovery of Internal Telia Produced by a Species of Cronartium. In Vol. 8, No. 9. O.P.
- 1917 Colley, R. H. Diagnosing White-Pine Blister-Rust from Its Mycelium. In Vol. 11, No. 6. O.P.
- 1918 Gravatt, G. F. and G. B. Posey. Gypsy-Moth Larvae as Agents in Dissemination of the White-Pine Blister Rust. In Vol. 12, No. 7. B.R.C.
- 1918 Hedgcock, George G. and Ellsworth Bethel. Pinon Blister Rust. In Vol. 14, No. 10. (Authors compare Pinon Blister Rust with White Pine Blister Rust.) O.P.
- 1918 Colley, R. H. Parasitism, Morphology and Cytology of Cronartium ribicola. In Vol. 15, No. 12. O.P.
- 1924 Posey, G. B. and E. R. Ford. Survey of Blister Rust Infection on Pines at Kittery Point, Maine, and the Effect of Ribes Eradication in Controlling the Disease. In Vol. 28, No. 12. B.R.C.
- 1925 Colley, R. H. A Biometric Comparison of the Urediniospores of Cronartium ribicola and Cronartium occidentale. In Vol. 30, No. 3. O.P.
- 1925 Pennington, L. H. Relation of Weather Conditions to the Spread of White Pine Blister Rust in the Pacific Northwest. In Vol. 30, No. 7. O.P.
- 1925 Spaulding, Perley, and A. R. Gravatt. Longevity of the Teliospores and Accompanying Uredospores of Cronartium ribicola Fischer in 1923. In Vol. 31, No. 10. O.P.
- 1926 Spaulding, Perley and A. R. Gravatt. The Influence of Physical Factors on the Viability of Sporidia of Cronartium ribicola Fischer. In Vol. 33, No. 5. O.P.
- 1927 York, H. H., W. H. Snell and A. R. Gravatt. The Results of Inoculating Pinus strobus with the Sporidia of & Cronartium ribicola. In Vol. 34, No. 6. F.P. B.R.C.



Jour. Agr. Research Reprints (Cont'd)

- 1927 Colley, Reginald, Carl Hartley and Minnie A. Taylor. A Morphologic and Biometric Comparison of Cronartium Ribicola and Cronartium Occidentale in the Aecial Stage. In Vol. 34, No. 6. O.P.
- 1928 Hahn, G. G. The Inoculation of Pacific Northwestern Ribes with Cronartium Ribicola and C. Occidentale. In Vol. 37, No. 11. O.P.
- 1930 Hahn, G. G. A Physiological Method of Distinguishing Cronartium Ribicola and C. Occidentale in the Uredinial Stages. In Vol. 40, No. 2. O.P.
- \* \* \*
- Misc. Circ. 40 - White Pine is Profitable if Protected from Blister Rust. 1925. F.P.
- Misc. Pub. 22 - Protect White Pine from Blister Rust, by J. F. Martin. 1928. F.P. & B.R.C.
- Misc. Pub. 23 - Protect Western White Pine and Sugar Pine from Blister Rust, by J. F. Martin. 1928. F.P. & B.R.C.
- Misc. Pub. 27 - Black Currant Spreads White-Pine Blister Rust, by Samuel B. Detwiler. 1928. F.P. & B.R.C.
- Misc. Pub. 27 Rev. - Black Currant Spreads White-Pine Blister Rust, by Samuel B. Detwiler. 1930. (Revised) F.P. & B.R.C.
- Tech. Bul. 87 - White-Pine Blister Rust: A Comparison of European with North American Conditions, by Perley Spaulding. 1929. F.P. & B.R.C.
- Yearbook Separate 938 - Black Currant is Nurse of Blister Rust, by Samuel B. Detwiler. 1926. O.P.
- No Series - How to Save Your White Pine Crop. 6 page. (Jack Frost leaflet). O.P.
- No Series - Protect White Pine from Blister Rust. 1929. (Four-page leaflet) B.R.C.

Compiled by R. G. Pierce and Miss Edna Howell,  
November 28, 1930.

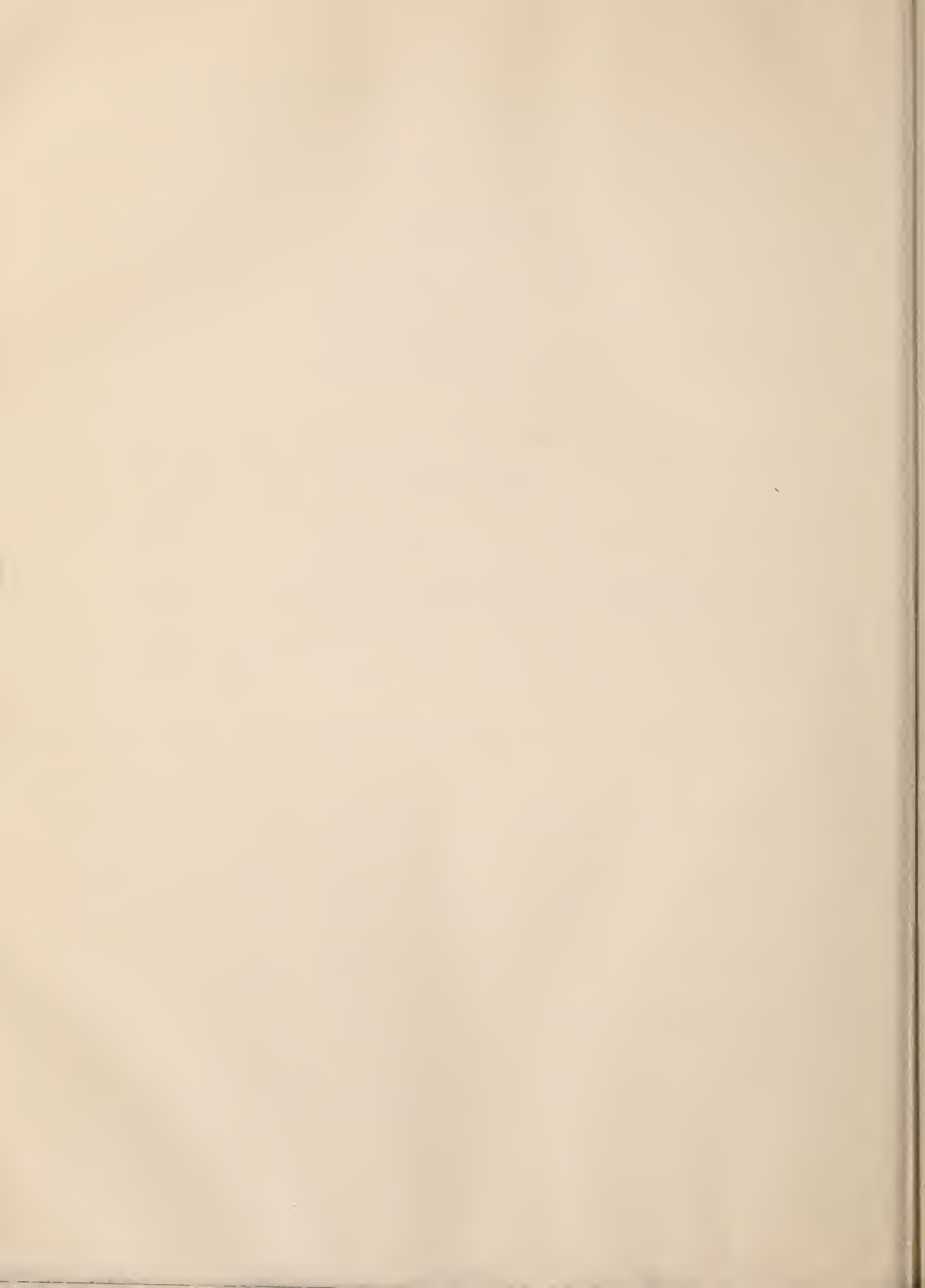
SUPPLEMENT TO

THE BLISTER RUST NEWS

Vol. 14, No. 12, December, 1930

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SUMMARY OF THE IDAHO BLISTER-RUST CONFERENCE

A meeting of the Idaho White Pine Blister Rust-Conference was held in Moscow, November 8, 1930, presided over by Governor H. C. Baldridge and attended by Senator John Thomas and members of:

The Idaho Legislature  
The State Board of Education  
The State Board of Land Commissioners  
The State Cooperative Board of Forestry  
The State Forester's Office  
The School of Forestry  
The United States Forest Service  
Office of Blister Rust Control  
White Pine Timberland Owners and Operators

The discussion pointed out that the white pine stands of Idaho are doomed to destruction unless prompt and adequate action is taken to control the White Pine Blister Rust which is now well established in the State.

The white pine is the backbone of the lumber industry of the State. This industry employs 60 per cent of the industrial population and supports an annual payroll of \$22,000,000, \$14,000,000 of which is accredited to white pine alone. The white pine type of Idaho covers three million acres carrying white pine stumpage of 13 billion board feet with a potential manufactured value of at least \$440,000,000.

The White Pine Blister Rust, imported from Europe, has now become so established in Idaho, by spreading from British Columbia, that 10 years will see a general infection throughout the white pine type and an additional 15 years will mark not only the destruction of a large part of the young growth, but will make serious inroads on the merchantable timber. To prevent eventual destruction, control work must be greatly expanded immediately and be continued throughout the coming 10 year period.

The disease is controllable as has been adequately demonstrated by the protection of white pine stands in the Eastern States. Control work in Idaho has been carried beyond the experimental stage, and while the problem is more serious than in the east, because of the extensive area of the white pine type, it has reached a point where large scale methods can be efficiently and successfully applied. The methods consist of eradicating the wild currants and gooseberries which are essential to the spread of the disease.

The problem resolves itself into cooperative effort on the part of the three land proprietors, the Federal Government, the State, and the associated private owners, for the control work must be complete, regardless of ownership, to make it effectual.



The program contemplated covers the next 10 year period, the larger scale work to begin immediately. The money needed for the first year is \$345,000 divided between the cooperators as follows: Federal Government \$200,000 for the National Forests, \$25,000 for the Public Domain, with \$80,000 additional as cooperative funds to match the state and private money on a two to one basis, the State \$20,000 and private owners \$20,000; these sums to be increased to \$665,000 annually, divided as follows: Federal \$400,000 for the National Forests, \$25,000 for the Public Domain, and in addition \$160,000 of cooperative money to match the state and private money as above, State \$40,000, private owners \$40,000. The total for the 10 year period will amount to approximately \$6,330,000, but even this sum, large as it may seem, is less than one half of what the State now realizes from the white pine lumber payroll annually.

It was the sense of the Conference that this statement be sent to the following organizations:

The North Idaho Chamber of Commerce  
The Idaho State Chamber of Commerce  
The U. S. Chamber of Commerce  
The State Cooperative Board of Forestry  
The State Board of Education  
The State Board of Land Commissioners  
The President's Commission on the Public Domain

Signed:

F. G. Miller, Dean, School of Forestry  
Ben E. Bush, State Forester  
C. L. Billings, Asst. General Manager  
Clearwater Timber Company  
L. F. Parsons, Secy., State Chamber of Commerce  
C. K. McHarg, Jr., U. S. Forest Service

-- Committee

THE IDAHO BLISTER-RUST SITUATION

An Address Delivered Before the Idaho Blister-Rust  
Conference, Nov. 8, 1930.

by  
S. B. Detwiler

The importance of this conference to the continued prosperity of Idaho is very clear from what previous speakers have told you. The fate of a principal resource of this State primarily rests with this body today. The essential facts have been stated from authentic sources. Briefly they are that western white pine is the only species in the Inland Empire forests which it is economically profitable to harvest under present conditions. Unless blister rust control is immediately undertaken on an adequate scale the blister rust will infect the bulk of the white pine stands, both young and old timber. Unless control is extensively applied now, it appears certain that heavy general infection of the Idaho pine will take place within the next ten years. The rust was discovered in western British Columbia and western Washington in 1921 and was first found in Idaho in 1927. The disease is more virulent in its action on western white pine than on the eastern white pine and it spreads and intensifies more rapidly in the western white-pine forests than in the East.

The essence of a great industry and the welfare and prosperity of a large part of Idaho depend on safeguarding the Idaho white pine from this virulent, parasitic disease. The blister rust is new to America, having been brought from Europe through the agency of man since the beginning of the present century. The Federal government could have prevented the entrance of this disease to America had its present restriction on importation of nursery stock been established twenty years earlier than it was. Now the blister rust is established over a large part of North America and within the next ten years will ravage the white-pine forests of the Northwest unless intensive control methods are employed at once. It is an emergency of national importance, for the government itself owns more than half of the threatened forest, and the nation's supply of this valuable and essential timber is very largely in the threatened forests. It is the established policy of the Federal Government to maintain National Forests on a productive basis and through leadership and financial assistance, to cooperate with the States and private forest owners in protecting their forest holdings in order that the welfare of the nation may be served through an adequate timber supply and through the benefits inherent in forest conservation.

Idaho must be warned by the catastrophe which followed the spread of another destructive tree disease introduced from abroad - the chestnut



blight. If action against the blister rust in Idaho is delayed or if it is undertaken in a half-hearted manner, it is safe to predict that the destruction which has followed the spread of the chestnut blight will become insignificant compared with the rapidity and completeness of the destruction which blister rust will cause in Idaho.

It has been demonstrated by fourteen years' experience in blister-rust control in the Northeastern United States that this disease is readily controllable on a practicable and economically sound basis, assuring continued profitable production of the eastern white pine. The method of control is very simple, consisting in the systematic removal of all currant and gooseberry bushes from the pine stands it is desired to protect and for a short distance outside of such stands. But this work can save the pine only when done before the pines are severely attacked by the rust. Blister-rust control in the East is going forward at the rate of approximately one million acres of protected pine lands annually. The cost of control amounts to less than a dollar per thousand feet of lumber produced. Only extensive experience with the blister rust under Idaho conditions can demonstrate conclusively what the ultimate costs and results of control will be in Idaho. However, we have done sufficient work to furnish a fair basis for calculation and we have the eastern precedent to guide us. Those who are best informed of the situation believe that control work will be no less successful here than it has proved to be in the East.

The clearing of currant and gooseberry bushes from Idaho white-pine areas has been conducted experimentally during the past eight years and much of this work was on a large scale. The entire Idaho white-pine area has been fairly well surveyed and it is now well known how and where to do the required control work. New and very efficient methods of destroying currant and gooseberry bushes by the use of chemicals have been developed. However, control work on the present scale is protecting less than two per cent of the white pine area each year. Hence at the present rate of progress it would require at least 50 years to protect the best pine sites in Idaho. Conservative estimates by the pathological experts of the United States Department of Agriculture indicate that not to exceed ten years remain in which to apply initial control work in the Inland Empire most effectively. The pine area which justifies protection is estimated to aggregate 3,100,000 acres. The cost of control over a period of ten years will average a total of about two and a half dollars per acre or twenty-five cents per acre per year. After that time it is estimated that the cost of control will not exceed seven and one-half cents per acre per year to maintain continuous protection from the rust. The total cost of establishing control over the next ten-year period is therefore estimated to be approximately \$7,750,000. Approximately five-sixths of the pine area is located in

Idaho, hence the total control costs in Idaho during the next ten years would be about \$6,500,000 or \$650,000 per year. These are large figures but are small in comparison with the value of the resource at stake. The \$6,500,000 cost of control in Idaho over a ten year period is less than half of the annual value of white-pine lumber cut in Idaho.

We face a situation of tremendous significance to the future welfare of northern Idaho. It is useless to dodge the facts for the blister rust is here. Its rapid spread is certain. This is the time when such action as is deemed essential to the saving of an industry must be taken. It is possible to protect the entire white-pine acreage, or part of it, or none. The decision is primarily Idaho's duty because the loss from blister rust will fall on its people and industries. Abandoned industries and wrecked communities lead to state impoverishment. It is, therefore, Idaho's problem to thoroughly understand the situation and move with determination and dispatch to assure such action as the welfare of the State dictates. If the blister rust is not promptly controlled on the bulk of the Idaho pine lands, plans for a permanent industry based on sustained yield will have to be abandoned. Part of the mature timber now on the land will be lost and the prospects of future profits from these lands through the regrowth of white pine will be lost forever.

One who carefully studies all angles of this situation in the Inland Empire must reach the same conclusion as Colonel Greeley when he was forester, namely that all of the white pine type in the region should be protected. What actually is done depends upon the ability of the Federal and State governments and the private owners to raise the required funds within the limited time available. I am firmly convinced that all of the white-pine type of this region can be saved and should be. There are several bases for working out the proportionate costs of control according to land ownership. One method is to figure the cost of protecting all of the white pine type within National Forests including private lands that lie within the forests. On this basis the Government would have to spend about 80% of the total sum required to protect all of the pine type in the Inland Empire. The cost, therefore, of protecting all of the pine type in the National Forests would total about \$650,000 per year for each of the next ten years. Of this amount, about \$550,000 would have to be spent in Idaho. The States and the private owners should share equally in raising the balance of the amount required annually, which in Idaho would mean a total of \$50,000 per year from the State and a like sum from the land owners.

Control work in the Clearwater region has made a very satisfactory start. In that region there is a distinct interest on the



part of the owners and with the Federal aid that has been available, they have made a good start toward meeting the emergency which faces us today. If only a weak attempt is to be made in behalf of the Idaho white-pine industry, it is obvious that work in this drainage should be pushed to completion in order to assure protection to one of the best white-pine timber stands in the world. Otherwise, the efforts already put forth may be lost. The same statement applies to part of the lands of the Potlatch Timber Protective Association and to selected areas north of the Potlatch Association, including the Priest Lake Association and all of the National Forests having white-pine type. However, it is my earnest recommendation that every possible effort be made to protect the entire area of the white-pine sites, from the Clearwater to the Canadian boundary. These lands now abound in excellent stands of immature white pine, growing vigorously and forming the basis of continuous production of a profitable and continuous timber crop. When the white pine goes, the economic hope of the region is lost so far as the lumber industry is concerned. All of the white-pine lands can be protected from blister rust, and sound policy dictates this as the proper course of action.





